



TENDER DOCUMENT

FOR

**DESIGN AND DEVELOPMENT OF INPUT OUTPUT TERMINATION PANEL,
BACKPLANE AND ATR CHASSIS FOR INTEGRATED AVIONICS DISPLAY
COMPUTER**

**COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH
NATIONAL AEROSPACE LABORATORIES
PB NO.1779, HAL AIRPORT ROAD, BENGALURU – 560017
KARNATAKA-INDIA**



Council of Scientific and Industrial Research
National Aerospace Laboratories
PB No.1779, HAL Airport Road, Bengaluru – 560 017, Karnataka-India
Tel #: 00 91 80 25086040/6041
Fax #: 00 91 80 25269611
Email: purchasek@nal.res.in
Website: www.nal.res.in

Invitation for Bids / Notice Inviting E-Tender

CSIR- National Aerospace Laboratories (NAL), Bengaluru, India is one of the premier laboratories under Council of Scientific and Industrial Research, an autonomous body under Department of Scientific and Industrial Research (Government of India), New Delhi. CSIR-NAL is a Science and Knowledge based Research, Development and Consulting Organization. It is internationally known for its excellence in Scientific Research in Aerospace Engineering.

The Director, CSIR-NAL invites sealed bids from their Manufacturers, their distributors and Indian Agent of Foreign Principals, if any, for the procurement of the following Goods/Services for its day-to-day research. The Technical specifications, Allied requirements and scope of supply are given in **Chapter 4** appended herewith.

Sr. No.	TenderNo.	Brief Description of item(s)	Unit	Quantity	Single / Two Bid
1	NAL/PUR/ALD/445/18-Z	Design and Development of Input Output Termination Panel, Backplane and ATR Chassis for Integrated Avionics Display Computer	Set	2	Two

- E-Bids are invited through the electronic tendering process and the Tender Document can be downloaded from the e-Tender Central Public Procurement Portal (CPPP) of Government of India, <https://etenders.gov.in>. A copy of the Tender Document is also available on CSIR-NAL Website, www.nal.res.in. **The submission of e-Bids will be only through the e-Tender portal <https://etenders.gov.in>. Bids will not be accepted in any other form.**
- The address for submission of EMD/Bid Security and for obtaining further information:

Controller of Stores & Purchase
Purchase Section
CSIR- National Aerospace Laboratories
PB No.1779, HAL Airport Road, Kodihalli, Bengaluru – 560017
Karnataka-India
Tel # : 080 25086040/6041/6044
Fax # : 080 25269611
Email : purchasek@nal.res.in, mkala@nal.res.in
- The prospective bidders should adhere to deadlines specified in Tender Details Screen corresponding to this Tender on E-Tender portal <https://etenders.gov.in>.
- A Pre-Bid Conference will be held on schedule mentioned below. All prospective bidders are requested to kindly submit their queries to the address indicated above so as to reach the Stores & Purchase Officer at least one day before Pre-Bid Conference.

Pre-Bid Conference	Date	Time in hours (IST)	Venue
NOT APPLICABLE			

5. The Bid prepared by the Bidder shall include the following: -

Bid Security (BS) / Earnest Money Deposit (EMD)	
a) In case of Indigenous Bidder	
Rs. 1,35,000/-	
[Rupees One Lakh Thirty-Five Thousand Only]	
b)	The Bid Security/Earnest Money Deposit shall be deposited through Bank Guarantee/Demand Draft drawn in favour of “The Director, National Aerospace Laboratories, Bengaluru” . The original Bid Security/EMD must be delivered to address mentioned in Sr.No.2 above on or before bid submission date and time as mentioned in “Date Sheet” failing which the bid shall be summarily rejected. For further details, refer Clause No.1.15 of Tender document.
Form as specified in Chapter No.8	

6. The Schedule for Submission of Bids and Opening of Bids is as follows: -

Date & Time of Submission of Bid		Date and Time of Opening of Bid (Part-I – Technical Bid Only)	
Date	Time (IST)	Date	Time (IST)
21-Mar-2019	10:00 Hrs	22-Mar-2019	11:00 Hrs

7. The Director, CSIR-National Aerospace Laboratories (NAL), Bengaluru, India reserves the right to accept or reject any or all tenders / offers either in part or in full or to annul the tender process at any stage or to split the order without assigning any reasons there for.

General Instructions to Bidders: -

01. Tender Documents May be downloaded from Central Public Procurement Portal <https://www.etenders.gov.in>. Aspiring Bidders who have not enrolled/ registered in e- procurement should enroll/ register before participating through the website <https://www.etenders.gov.in>. The portal enrolment is free of cost. Bidders are advised to go through instructions provided at ‘Instructions for online Bid Submission’.
02. Tenderers can access tender documents on the website (For searching in the NIC site <https://www.etenders.gov.in>, kindly go to Tender Search option, select tender type and select ‘ Council of Scientific and Industrial Research’ in organization tab and select NAL-Bengaluru-CSIR’ in department type Thereafter, Click on “Search” button to view all CSIR-NAL, Bengaluru tenders). Select the appropriate tender and fill them with all relevant information and submit the completed tender document online on the website <https://www.etenders.gov.in> as per the schedule given in the next page.

SCHEDULE CUM CRITICAL DATE SHEET

1	Name of Organization	CSIR-National Aerospace Laboratories, Bengaluru
2	Tender Reference No	NAL/PUR/ALD/445/18-Z
3	Tender Type (Open/Limited/EOI/Auction/Single)	Open
4	Type/Form of Contract (Work/Supply/Auction/Service/Buy/Empanelment/Sell)	Supply
5	No of Covers (One/Two/Three/Four)	Two
6	Tender Category (Services/Goods/Works)	Goods
7	Allow Resubmission (Only in online mode within scheduled period)	Yes
8	Allow Withdrawal (Only in online mode within scheduled period)	Yes
9	Allow Offline Submission	No
10	Type/Form of Contract (Work/Supply/Auction/Service/ Buy/Empanelment/Sell)	Supply
11	Supply Title	Design and Development of Input Output Termination Panel, Backplane and ATR Chassis for Integrated Avionics Display Computer
12	Supply Description	Design and Development of Input Output Termination Panel, Backplane and ATR Chassis for Integrated Avionics Display Computer Details as per Tender Document
13	Product Category (Civil Works/Electrical Works/Fleet Management/ Computer Systems)	Research & Development
14	Is Multi Currency Allowed	Yes
15	a) Tender Publishing Date & Time	21-Feb-2019 (18:55 Hrs)
	b) Document Download Start Date & Time	21-Feb-2019 (18: 55 Hrs)
	c) Seek Clarification Start Date & Time	21-Feb-2019 (18:55 Hrs)
	d) Seek Clarification End Date & Time	18-Mar-2019 (16:30 Hrs)
	e) Pre-Bid Conference Date & Time	NOT APPLICABLE
	f) Bid Submission Start Date & Time	21-Feb-2019 (18:55 Hrs)
	g) Bid Submission End Date & Time	21-Mar-2019 (10:00 Hrs)
	h) Bid Opening Date & Time	22-Mar-2019 (11:00 Hrs)
16	Bid Validity Days	90 days from the date of Opening of the Bid
17	Address for communication	CSIR- National Aerospace Laboratories PB No.1779, HAL Airport Road, Kodihalli, Bengaluru - 560017 Karnataka-India
18	Inviting Officer	Director, CSIR-NAL
19	Contact No	25086040, 25086041, 25086044
20	E-mail Address	purchasek@nal.res.in / mkala@nal.res.in / spo@nal.res.in
21	Details specification of the Goods/Services	Refer Chapter-4

CONTENTS OF TENDER / BIDDING DOCUMENT

The bidding documents, apart from the Invitation for Bids / Notice Inviting Tender have been divided into Eight (8) Chapters as under:

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LIST OF SHORT FORMS AND FULL FORMS

ACRONYM	EXPANSION
BG	BANK GUARANTEE
BS	BID SECURITY
CIF	COST INSURANCE FREIGHT
CIP	CARRIAGE PAID TO
CSIR	COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH
CVC	CHIEF VIGILANCE COMMISSION
DGS&D	DIRECTOR GENERAL OF SUPPLIES & DISPOSAL
EMD	EARNEST MONEY DEPOSIT
ESIC	EMPLOYEES STATE INSURANCE CORPORATION
FCA	FREE CARRIAGE ALONG SIDE
FOB	FREE ON BOARD
GCC	GENERAL CONDITIONS OF CONTRACT
GOI	GOVERNMENT OF INDIA
GST	GOODS & SERVICES TAX
IT	INCOME TAX
ICC	INTERNATIONAL CHAMBERS OF COMMERCE
IEMs	INDEPENDENT EXTERNAL MONITORS
IP	INTEGRITY PACT
IPC	INDIAN PENAL CODE
IST	INDIAN STANDARD TIME
ITB	INSTRUCTION TO BIDDER
JS (A)	JOINT SECRETARY (ADMINISTRATION)
LC	LETTER OF CREDIT
LC	LETTER OF CREDIT
LD	LIQUIDATED DAMAGES
NAL	NATIONAL AEROSPACE LABORATORIES
NIT	NOTICE INVITING TENDER
NSIC	NATIONAL SMALL INDUSTRIES CORPORATION
PS	PERFORMANCE SECURITY
SCC	SPECIAL CONDITIONS OF CONTRACT
UNCITRAL	UNITED NATIONS COMMISSION ON INTERNATIONAL TRADE

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A. Introduction

Instructions to bidder are broad guidelines to be followed while formulating the bid and its submission to the Purchaser. It also describes the methodology for opening and evaluation of bids and consequent award of contract.

1.1 Eligible Bidders

- 1.1.1. This Invitation for Bids is open to all suppliers.
- 1.1.2. Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation of Bids.
- 1.1.3. Bidders who fulfil the Eligibility Criteria mentioned in **Chapter 5** will be considered for Technical Evaluation of bids.

1.2 Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of its bid, and "the Purchaser", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

1.3 Fraud and corruption

- 1.3.1. The purchaser requires that the bidders, suppliers and contractors observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy, the following are defined:

Sr. No.	Term	Meaning
(a)	Corrupt practice	The offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution.
(b)	Fraudulent practice	a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract.
(c)	Collusive practice	means a scheme or arrangement between two or more bidders, with or without the knowledge of the purchaser, designed to establish bid prices at artificial, non-competitive levels.
(d)	Coercive practice	means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract.

- 1.3.2. The Purchaser will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question.

B. The Bidding Documents

1.4 Cost of Bidding Documents

The bidding documents are to be **downloaded Free of Cost** from CPPP Website <https://etenders.gov.in>

1.5 Content of Bidding Documents

- 1.5.1. The Goods / Services required, bidding procedures and contract terms are prescribed in the bidding documents which should be read in conjunction. The bidding documents, apart from the Invitation for Bids / Notice Inviting Tender have been divided into Eight Chapters.
- 1.5.2. The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in rejection of its bid.

1.6 Clarification of bidding documents

1.6.1. In case when there is NO PRE-BID CONFERENCE

A prospective Bidder requiring any clarification of the Bidding Documents shall contact the Purchaser in writing at the Purchaser's address specified in the Special Conditions of Contract (SCC), latest by the Purchaser will respond in writing through e-mail to any request for clarification, provided that such request is received not later than ten (10) days prior to the due date for submission of bids. Should the Purchaser deem it necessary to amend the Bidding Documents as a result of a clarification, it shall do so following the procedure under *Clause 1.7* relating to amendment of bidding documents and *Clause 1.19* relating to Due date for Submission of Bids. The amendments issued would be hosted on the CPPP website <https://etenders.gov.in> of the purchaser for the benefit of the prospective bidders who are expected to take cognizance of the same before formulating and submitting their bids.

1.6.2. In case when there is PRE-BID CONFERENCE

- a) A prospective Bidder requiring any clarification of the Biding Documents shall contact the Purchaser in writing at the Purchaser's address specified in the Special Conditions of Contract (SCC), latest by the date specified in the Invitation for Bids / NIT which would be deliberated as **per Clause 1.6.2 (b)** of Instructions to the Bidders. No request for clarification or query shall be normally entertained after the **Pre-Bid Conference**. Should the Purchaser deem it necessary to amend the Bidding Documents as a result of a clarification, it shall do so following the procedure under *Clause 1.7* relating to amendment of Bidding Documents and *Clause 1.19* relating to Due Date for Submission of Bids. The clarifications and amendments issued would also be hosted on the CPPP website <https://etenders.gov.in> of the Purchaser for the benefit of the other prospective bidders.
- b) A Pre-bid Conference shall be held as indicated in Invitation to Bid. All prospective bidders are requested to kindly attend the Pre-bid Conference. In order to facilitate CSIR-NAL for proper conduct of the Pre-bid Conference, all prospective bidders are requested to kindly submit their queries (with envelope bearing Tender No. and Date on top and marked "Queries for Pre-bid Conference") so as to reach CSIR-NAL as indicated in Invitation to Bid. Queries may be sent by email to purchasek@nal.res.in/spo@nal.res.in. CSIR-NAL shall answer the queries during the pre-bid conference, which would become a part of the proceedings of the Pre-bid Conference. These proceedings will become a part of clarifications / amendments to the bidding documents and would become binding on all the prospective bidders. These proceedings would also be hosted on CPPP website <https://etenders.gov.in> for the benefit of all the prospective bidders. Before formulating and submitting their bids, all prospective bidders are advised to surf through the CPPP website <https://etenders.gov.in> after the Pre-bid Conference, in order to enable them take cognizance of the changes made in the bidding document.

1.7 Amendment to Bidding Documents

- 1.7.1. At any time prior to the due date for submission of bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by amendment.
- 1.7.2. All prospective bidders who have down loaded the Tender Document should surf CPPP website <https://etenders.gov.in> from time to time to know about the changes / modifications in the Tender Document. The changes / modifications would also be hosted on the CPPP website <https://etenders.gov.in>. All prospective bidders are expected to surf the CPPP website <https://etenders.gov.in> before formulating and submitting their bids to take cognizance of the amendments.
- 1.7.3. In order to allow prospective bidders reasonable time to take the amendment into account while formulating their bids, the Purchaser, at its discretion, may extend the due date for the submission of bids and host the changes on the CPPP website <https://etenders.gov.in> of the purchaser.

C. Preparation of bids

1.8 Language of Bid

- 1.8.1. The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in English language only especially when the details are technical. However, if GOI makes it mandatory under Rajbhasha Abhiyan, in that case views of Rajbhasha unit of CSIR may be sought.
- 1.8.2. The Supplier shall bear all costs of translation, if any, to the English language and bear all risks of the accuracy of such translation, for documents provided by the Supplier.

1.9 Documents Comprising the E-Bid

- 1.9.1 The E-bid shall comprise of the following documents as per the requirement of the Tender Document. The documents should be scanned and **uploaded in PDF format**.

Sr. No.	Document Required	Reference Clause & Forms of tender document
1	Bid Security / EMD for amount specified in NIT	1.15 & Chapter-8: Annexure-A
2	Bidder Information Form	Chapter-8: Annexure-B
3	Certificate of Incorporation	5.1 (a)
4	Manufacturers Authorisation Form	Chapter-8: Annexure-D
5	Agency Agreement / MOU	5.1 (b)
6	Eligibility Certificate	5.1 (c)&Chapter-8: Annexure-G
7	Self-Certificate: Non-Black Listing	5.1 (d) &Chapter-8: Annexure-H
8	Performance Statement Form	5.2 (b) &Chapter-8: Annexure-E
9	Service Support Details	5.2 (c) &Chapter-8: Annexure-F
10	Creditworthy Report (if applicable)	5.3
11	Detailed Technical Specifications & Scope of Supply	Chapter-4
12	Schedule of Requirement	Chapter-3
13	Deviation Statement	Chapter-8: Annexure-E (Part-I & II)
14	Bid Form	Chapter-8: Annexure-C
15	Price Schedule Form (s)	Chapter-6

The documents comprising bid should be submitted in the **above sequence in orderly manner**. **Bid is Single Bid or Two Bid is specified in NIT.**

1.9.2 Documents comprising Single Bid

All the above documents should be submitted in Single E-Bid.

1.9.3 Documents comprising Two Bid (Technical Bid & Price Bid)

Technical bid should comprise of documents listed from Sr.No.1 to 13 and Bid Form & Price Schedule Form **without mentioning** prices and discount.

Price Bid should comprise of Bid Form & Price Schedule Form by **mentioning** prices and discount.

1.10 Bid form and Price Schedule

The bidder shall complete the Bid Form and the appropriate Price Schedule form as given in Chapter-6 furnished in the bidding documents. These forms must be completed without any alterations to its format and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested. The Bid Form and the appropriate Price Schedule form shall be submitted in accordance with **ITB Clauses 1.9.2 & 1.9.3** of the bidding documents.

1.11 Bid Prices

- 1.11.1. The Bidder shall indicate on the appropriate price schedule form, the unit prices and total bid prices of the Goods / Services it proposes to supply under the contract.
- 1.11.2. Prices indicated on the price-schedule form shall be entered separately in the following manner:

(a) **For Goods manufactured within India:**

i)	The price of the goods quoted Ex-works
ii)	GST which will be payable on the goods if the contract is awarded.
iii)	The charges for inland transportation, insurance and other local services required for delivering the goods at the desired destination as specified in the price schedule form.
iv)	The installation, commissioning and training charges including any incidental services, if any.

(b) **For Goods manufactured abroad:**

i)	The price of the goods, quoted on FCA (named Airport abroad) or FOB (named port of shipment), as specified in the price schedule form.
ii)	The charges for insurance and transportation of the goods to the port / place of destination.
iii)	The agency commission charges payable to Indian agent in Indian rupees, if any.
iv)	The installation, commissioning and training charges including any incidental services, if any

1.11.3. The terms FOB, FCA, CIF, CIP etc. shall be governed by the rules prescribed in the current edition of the Incoterms published by the International Chambers of Commerce, Paris.

1.11.4. **Where there is no mention of packing, forwarding, freight, insurance charges, taxes, any charges mentioned as extras as applicable etc.; or tax at your account or tax to be borne by the Buyer, such offer may be rejected as incomplete.**

1.11.5. The price quoted shall remain fixed during the contract period and shall not vary on any account.

1.11.6. All lots and items must be listed and priced separately in the Price Schedules. If a Price Schedule shows items listed but not priced, their prices shall be assumed to be included in the prices of other items. Lots or items not listed in the Price Schedule shall be assumed to be not included in the bid.

1.11.7. The CSIR-NAL is a public funded Research Institution under Department of Scientific & Industrial Research and concessional Custom Duty @5.15% is applicable for the goods purchased for research purpose vide Government of India Notification No.51/96-Customs dated 23.07.1996

1.11.8. In case of imports the freight & insurance will be paid by the Purchaser, as the consignments are to be shipped through the Purchaser nominated freight forwarder.

1.11.9. The quotation should be only in Indian Rupees for indigenous items. In case of foreign quote, the Bidders may quote their rates in Indian Rupees as well as in Foreign Currency.

1.11.10. In case of INR bids the price criteria should be on Free Delivery to CSIR-NAL, Bengaluru. Govt. Levies like GST etc., if any, shall be paid at actual rates applicable on the date of delivery. Rates should be quoted accordingly giving the basic price, GST etc., if any.

1.11.11. Custom Duty is levied on all import meant for CSIR-NAL. Hence, the suppliers are requested to quote only on FOB/FCA basis, freight, insurance and custom duty as applicable to R&D Institutions will be paid by the Purchaser.

1.11.12. CSIR-CSIR-NAL is a public funded Research Institution under Department of Scientific & Industrial Research and concessional GST (IGST@5% OR SGST @ 2.5% and **CGST@2.5%**) shall be made applicable for the goods purchased for research purpose vide Ministry of Finance (Department of Revenue) Notification No.47/2017-Integrated Tax dated 14.11.2017 & Notification No.45/2017-Central Tax dated 14.11.2017 in due course of time. Till such time GST as applicable shall be paid.

Note: All payments due under the contract shall be paid after deduction of statutory levies at source (like ESIC, IT, etc.), wherever applicable.

1.12 Bid Currencies

Prices shall be quoted in Indian Rupees for offers received for supply within India and in freely Convertible foreign currency in case of offers received for supply from foreign countries.

1.13 Documents Establishing Bidder's Eligibility and qualifications

1.13.1. The bidder shall furnish, as part of its bid, documents establishing the bidders' eligibility to bid and its qualification to perform the contract if its bid is accepted.

1.13.2. The documentary evidence of the bidder's qualification to perform the contract if the bid is accepted shall establish to the purchaser's satisfaction that:

(a)	The bidder meets the qualification criteria listed in bidding documents, if any.
(b)	Bidder who doesn't manufacture the goods it offers to supply shall submit Manufacturers' Authorization Form using the form specified in the bidding document to demonstrate that it has been duly authorized by the manufacturer of the goods to quote and / or supply the goods.
(c)	In case a bidder not doing business within India, it shall furnish the certificate to the effect that the bidder is or will be represented by an agent in India, equipped and able to carry out the supply, maintenance, repair obligations etc. during the warranty and post warranty period or ensure a mechanism at place for carrying out the supply, maintenance, repair obligations etc. during the warranty and post-warranty period.

1.13.3. Conditional tenders / offers shall **not** be accepted.

1.14 Documents Establishing Goods' Eligibility and Conformity to Bidding Documents

1.14.1. To establish the goods' eligibility, the documentary evidence of the goods and services eligibility shall consist of a statement on the country of origin of the goods and services offered which shall be confirmed by a certificate of origin at the time of shipment.

1.14.2. To establish the conformity of the goods and services to the specifications and schedule of requirements of the bidding document, the documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings and data, and shall consist of:

(a)	A detailed description of the essential technical and performance characteristics of the goods;
(b)	A list giving full particulars, including available sources and current prices, of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods during the warranty period following commencement of the use of the goods by the Purchaser in the Price- bid ; and
(c)	An item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications.

1.14.3. For purposes of the commentary to be furnished pursuant to above, the Bidder shall note that standards for workmanship, material and equipment, designated by the Purchaser in its Technical Specifications are intended to be descriptive only and not restrictive. The Bidder may substitute these in its bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

1.15 Bid Security (BS) / Earnest Money Deposit (EMD)

1.15.1. The Bidder shall furnish, as part of its bid, a Bid security (BS) / Earnest Money Deposit (EMD) of amount as specified in NIT in the form of a Bank Guarantee / Demand Draft drawn on any Nationalized Bank in favour of the "Director, National Aerospace Laboratories Bengaluru".

A. In case of Foreign Bidder(s):

a)	The BS shall be submitted either by the principal or by the Indian agent
b)	The bidder who submits the tender on behalf of their principals should produce documentary evidence in support of their authority to quote
c)	The Bank Guarantee is insisted due to steep fluctuations in foreign exchange hence the foreign DDs are not accepted towards BS/EMD

B. In the case of indigenous bidders:

a)	The BS shall be submitted by the manufacturer or their specifically authorized dealer/bidder
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1.15.2. E-Bids submitted without BS/EMD will stand rejected. BS/EMD will not be accepted in the form of cash / cheque or any other form other than DD/Bank Guarantee as per format given in Chapter-8: **Annexure A**. No interest is payable on BS/EMD

1.15.3. The bid security is required to protect the Purchaser against the risk of Bidder's conduct, which would warrant the Bid security's forfeiture.

1.15.4. The bid security shall be in Indian Rupees for offers received for supply within India and denominated in the currency of the bid or in any freely convertible foreign exchange in the case of offers received for supplies from foreign countries in equivalent Indian Rupees. The bid security shall be in one of the following forms at the bidders' option:

(a)	A Bank Guarantee (BG) issued by a Nationalized Bank / Foreign Bank operating in India in the form provided in the bidding documents and valid for 45 days beyond the validity of the bid. In case a bidder desires to submit a BG issued from a foreign bank, then the same should be confirmed by a Nationalised / Scheduled Indian bank; OR
(b)	A Banker's cheque or demand draft in favour of the Purchaser issued by any Nationalised Bank.

1.15.5. The bid security shall be payable promptly upon written demand by the purchaser in case the conditions listed in the **ITB clause 1.15.12** are invoked.

1.15.6. The bid security should be submitted in its original form to the address:

STORES & PURCHASE OFFICER,
CSIR-NATIONAL AEROSPACE LABORATORY
PB NO.1779, HAL AIRPORT ROAD, KODIHALLI,
BENGALURU - 560017
KARNATAKA-INDIA

Scanned Copy of Demand Draft/Bank Guarantee towards bid security should be uploaded along with the E-bid.

1.15.7. Bid security / EMD is the mandatory requirement and exemption is applicable to the firms registered with MSEs only for the manufacture of the tendered goods and not for selling products manufactured by other companies.

1.15.8. The Procurement Policy for Micro & Small Enterprises (MSEs) order 2012 and the Procurement Policies for make in India as notified by Government of India are applicable.

1.15.9. The Bid Security of unsuccessful bidder will be discharged / returned as promptly as possible but positively within a period of 30 days after the expiration of the period of bid validity or placement of order whichever is later, without any interest.

1.15.10. The successful Bidder's bid security will be discharged upon the Bidder furnishing the Performance Security, without any interest. Alternatively, the BS could also be adjusted against Performance Security, if it is paid through Demand Draft / Banker's Cheque.

1.15.11. The receipt of Bid security before time and date of submission of bid is mandatory requirement. The bid is liable to be rejected if the bid security is not received within stipulated time.

1.15.12. The bid security may be forfeited:

(a)	If Bidder withdraws or amends or modifies or impairs or derogates its bid during the period of bid validity specified by the Bidder on the Bid Form; OR
(b)	In case of successful Bidder, if the Bidder fails to furnish order acceptance within 15 days of the order or fails to sign the contract and / or fails to furnish Performance Security within 21 days from the date of contract / order.

- 1.15.13. Whenever the bidder chooses to submit the Bid Security in the form of Bank Guarantee, then he should advise the banker issuing the Bank Guarantee to immediately send by Registered Post (A.D.) an unstamped duplicate copy of the Guarantee directly to the Purchaser with a covering letter to compare with the original BG for the correctness, genuineness, etc.

1.16 Period of Validity of Bids

- 1.16.1. Bids shall remain valid for minimum of 90 days after the date of bid opening prescribed by the Purchaser. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.
- 1.16.2. In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing (or by fax or e-mail). The bid security provided shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required nor permitted to modify its bid.
- 1.16.3. Bid evaluation will be based on the bid prices without taking into consideration the above corrections.

1.17 Format and Signing of Bid

- 1.17.1. The bids may be submitted as Single-bid or Two-bid as specified in the Invitation for Bids / NIT.
- 1.17.2. In case the bids are invited on single bid basis, then the Bidder shall submit E-bid comprising all documents listed under clause 1.9 relating to documents comprising the bid.
- 1.17.3. In case the bids are invited on two-bid system, the Bidder shall submit E-bid in two separate parts. First part shall contain Technical bid comprising all documents listed under clause relating to Documents Comprising the Bid excepting bid form and price schedule forms. The second part shall contain the Price-Bid comprising Bid Form and Price Schedule forms.
- 1.17.4. The scanned copies of the E-bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the Contract. All pages of the bid, except for un-amended printed literature, shall be initialled by the person or persons signing the bid.
- 1.17.5. Any interlineations, erasures or overwriting shall be valid only if they are initialled by the person or persons signing the bid.

D. Submission of E-Bids

1.18 Submission of E-Bids

- 1.18.1 Bids shall be submitted online only at CPPP website <https://etenders.gov.in> Manual/ Offline bids shall not be accepted under any circumstances.
- 1.18.2 The Bidder shall download the Tender Enquiry Document directly from the website <https://etenders.gov.in> and shall not tamper/modify it in any manner. In case if the same is found to be tampered/modified in any manner, Tender/Bid will be summarily rejected and EMD would be forfeited.
- 1.18.3 The complete bidding process is online. Bidders should be in possession of valid Digital Signature Certificate (DSC) of class III for online submission of bids. Prior to bidding DSC need to be registered on the website mentioned above. If the envelope is not digitally signed & encrypted the Purchaser shall not accept such open Bids for evaluation purpose and shall be treated as non-responsive and rejected.
- 1.18.4 Bidders are advised to go through “Bidder Manual Kit”, “System Settings” & “FAQ” links available on the login page of the e-Tender portal for guidelines, procedures & system requirements. In case of any technical difficulty, Bidders may contact the help desk numbers & email ids mentioned at the e-tender portal. Every Bidder will be required to obtain a Class-III Digital Signature (DSC) for submission of Bids.
- 1.18.5 Bidders are advised to visit CPPP website <https://etenders.gov.in> regularly to keep themselves updated, for any changes/modifications in the Tender Enquiry Document.
- 1.18.6 Intending bidders are advised to visit CPPP website <https://etenders.gov.in> regularly till closing date of submission of bid, for any corrigendum.

1.18.7 The Bid Security/Earnest Money Deposit shall be deposited through Bank Guarantee / Demand Draft drawn in favour of "The Director, National Aerospace Laboratories, Bengaluru". The original Bid Security/EMD must be delivered at address mentioned in Sr.No.2 of NIT till bid submission date and time as mentioned in "Date Sheet" failing which the bid shall be summarily rejected.

1.18.8 Purchaser shall receive the bids online through CPPP portal only. The e-Tender portal shall automatically stop accepting bids after the scheduled date and time specified in the Tender Document. Partially submitted bids shall be treated as invalid and shall not be processed.

1.19 Due date for Submission of E-Bids

1.19.1. EMD/BS must be received by the Purchaser at the address specified in NIT not later than the time and date specified in NIT.

1.19.2. Bidders are advised to upload and submit their E-bids timely within due date for submission of E-Bids in view of the electronic process so as to avoid last minute issues.

1.19.3 The Purchaser may, at its discretion, extend the due date for submission of E-bids by amending the tender documents in accordance with Clause relating to Amendment of Bidding Documents in which case all rights and obligations of the Purchaser and Bidders previously subject to the due date will thereafter be subject to the due date as extended.

1.20 Late Submission of EMD

1.20.1. Any bid security/EMD received by the Purchaser after the due date for submission of bids prescribed by the Purchaser is liable to be rejected.

1.20.2. Bidders must note that the e-tender portal shall not permit uploading of bids after the scheduled time of submission.

1.21 Withdrawal, substitution and Modification of Bids

1.21.1 The bidder may withdraw, correct or modify his digitally signed bid after submission prior to the deadline for submission of bids, through provisions of e-tendering portal.

1.21.2 The bidder is not allowed to modify or withdraw bid after deadline for submission of bids.

E. Opening and Evaluation of E-Bids

1.22 Opening of E-Bids by the Purchaser

1.22.1 The E-bids shall be opened online by authorised officials of the Purchaser as per schedule given in Date Sheet.

1.22.2 In case, the day of bid opening is declared a holiday by the government, the E-bids will be opened on the next working day at the same time. No separate intimation shall be sent to the bidders in this regard.

1.22.3 Since, E-bid is an online process; the E-bid opening or any other process may be delayed due to any technical/server issue. If any such issue arises, this will not be tantamount to process delay and CSIR-NAL will not be responsible for the same.

1.22.4 On opening of bids online, accepting the bid will not mean that the firm is technically or financially qualified.

1.23 Confidentiality

1.23.1. Information relating to the examination, evaluation, comparison, and post qualification of bids, and recommendation of contract award, shall not be disclosed to bidders or any other persons not officially concerned with such process until Award of the Contract.

1.23.2. Any effort by a Bidder to influence the Purchaser in the examination, evaluation, comparison, and post qualification of the bids or contract award decisions may result in the rejection of its Bid.

1.24 Clarification of Bids

To assist in the examination, evaluation, comparison and post qualification of the bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing and no change in prices or substance of the bid shall be sought, offered or permitted. However, no negotiation shall be held except with the lowest bidder, at the discretion of the purchaser. Any clarification submitted by a bidder in respect to its bid which is not in response to a request by the purchaser shall not be considered.

1.25 Preliminary Examination

1.25.1. The Purchaser shall examine the bids to confirm that all documents and technical documentation requested in **ITB Clause 1.9** have been provided, and to determine the completeness of each document submitted.

1.25.2. The Purchaser shall confirm that the following documents and information have been provided in the Bid. If any of these documents or information is missing, the offer shall be rejected.

- (a) All the tenders received will first be scrutinized to see whether the tenders meet the basic requirements as incorporated in the tender enquiry document. The tenders, who do not meet the basic requirements, will be treated as non-responsive and ignored. The following are some of the important points, for which a tender may be declared as non-responsive and will be ignored, during the initial scrutiny:

i	The Bid is unsigned
ii	The Bidder is not eligible
iii	The Bid validity is shorter than the required period
iv	The Bidder has quoted for goods manufactured by a different firm without the required authority letter from the proposed manufacturer
	Bidder has not agreed to give the required performance security
vi	The goods quoted are sub-standard, not meeting the required specification, etc.
vii	Against the Requirement (Scope of supply) the bidder has not quoted for the entire requirement as specified in Chapter 4
viii	The bidder has not agreed to some essential condition(s) incorporated in the tender.

- (b) Bid Form and Price Schedule Form, in accordance with **ITB Clause 1.10**. In case of two-bid system these forms shall be examined after opening of the Price Bids of the technically qualified bidders.

1.26 Responsiveness of Bids

1.26.1. Prior to the detailed evaluation, the purchaser will determine the substantial responsiveness of each bid to the bidding documents. For purposes of this clause, a substantive responsive bid is one, which conforms to all terms and condition of the bidding documents without material deviations, reservations or omissions. A material deviation, reservation or omission is one that:

(a)	affects in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Tender; OR
(b)	limits in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Proposed Contract; OR
(c)	if rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

1.26.2. The Purchasers' determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

1.26.3. If a bid is not substantially responsive, it will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation or omission.

1.27 Non-Conformity, Error and Omission

1.27.1. Provided that a Bid is substantially responsive, the Purchaser may waive any non-conformities or omissions in the Bid that do not constitute a material deviation.

1.27.2. Provided that a bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify non-material non-conformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

1.27.3. Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:

(a)	if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
(b)	if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
(c)	if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

1.27.4. Provided that a bid is substantially responsive, the purchaser may request that a bidder may confirm the correctness of arithmetic errors as done by the purchaser within a target date. In case, no reply is received then the bid submitted shall be ignored and its Bid Security may be forfeited.

1.28 Examination of Terms & Conditions, Technical Evaluation

1.28.1. The Purchaser shall examine the Bid to confirm that all terms and conditions specified in the GCC and the SCC have been accepted by the Bidder without any material deviation or reservation.

1.28.2. The Purchaser shall evaluate the technical aspects of the Bid submitted in accordance with **ITB Clause 1.14**, to confirm that all requirements specified in Chapter 4 of the Bidding Documents have been met without any material deviation or reservation.

1.28.3. If, after the examination of the terms and conditions and the technical evaluation, the Purchaser determines that the Bid is not substantially responsive in accordance with **ITB Clause 1.26**, it shall reject the Bid.

1.29 Conversion to Single Currency

To facilitate evaluation and comparison, the Purchaser will convert all bid prices expressed in the amounts in various currencies in which the bid prices are payable to Indian Rupees at the selling exchange rate established by any bank in India as notified in the Newspapers on the date of bid opening in the case of single bid and the rates prevalent on the date of opening of the Price Bids in case of two-bid. For this purpose, exchange rate notified in www.xe.com or www.rbi.org or any other website would be used by the purchaser.

1.30 Evaluation and comparison of bids

1.30.1. The Purchaser shall evaluate each bid that has been determined, up to this stage of the evaluation, to be substantially responsive.

1.30.2. To evaluate a Bid, the Purchaser shall only use all the factors, methodologies and criteria defined below. No other criteria or methodology will be used.

1.30.3. The bids shall be evaluated on the basis of final landing cost which shall be arrived as under:

(a) For Goods manufactured within India

i)	The price of the goods quoted Ex-works
ii)	GST which will be payable on the goods if the contract is awarded.
iii)	The charges for inland transportation, insurance and other local services required for delivering the goods at the desired destination as specified in the price schedule form.
iv)	The installation, commissioning and training charges including any incidental services, if any as given in Scope of Supply (Chapter 4)

(b) **For Goods manufactured abroad**

i)	The price of the goods, quoted on FCA (named Airport abroad) or FOB (named port of shipment), as specified in the price schedule form.
ii)	The charges for insurance and transportation of the goods to the port / place of destination i.e. CIP/CIF Price.
iii)	The agency commission charges payable to Indian agent in Indian rupees, if any.
iv)	The installation, commissioning and training charges including any incidental services, if any

1.30.4. The comparison between the indigenous and the foreign offers shall be made on FOR destination basis and CIF / CIP basis respectively. However, the CIF / CIP prices quoted by any foreign bidder shall be loaded further as under: -

(a)	Towards customs duty and other statutory levies – as per applicable rates.
(b)	Towards custom clearance, inland transportation etc.- 2% of the CIF / CIP value.

1.30.5. In case of Purchase of many items against one tender, which are not inter- dependent or, where compatibility is not a problem, normally the comparison would be made on ex-works, (in case of indigenous items) and on FOB / FCA (in the case of imports) prices quoted by the firms for identifying the lowest quoting firm for each item.

1.30.6. Orders for Imported Goods need not necessarily be on FOB / FCA basis rather it can be on the basis of any of the Incoterms latest edition as may be amended from time to time by the ICC or any other designated authority and favourable to CSIR -NAL.

1.30.7. Wherever the price quoted on FOB / FCA and CIF / CIP basis are the same, the Contract would be made on CIF / CIP basis only.

1.30.8. The GCC and the SCC shall specify the mode of transport i.e. whether by air / ocean / road / rail.

1.31 Comparison of Bids

The Purchaser shall compare all substantially responsive bids to determine the lowest valued bid, in accordance with **ITB Clause 1.30**.

1.32 Contacting the Purchaser

1.32.1. Subject to **ITB Clause 1.24**, no Bidder shall contact the Purchaser on any matter relating to its bid, from the time of the bid opening to the time the Contract is awarded.

1.32.2. Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison or contract award may result in rejection of the Bidder's bid.

1.33 Post qualification

1.33.1. In the absence of pre-qualification, the Purchaser will determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated responsive bid is qualified to perform the contract satisfactorily, in accordance with the criteria listed in **ITB Clause 1.13**.

1.33.2. The determination will take into account the Eligibility & Qualification criteria listed in the bidding documents and will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, as well as such other information as the Purchaser deems necessary and appropriate.

1.33.3. An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's bid.

F. Award of contract

1.34 Negotiations

Normally, there shall not be any negotiation. Negotiations, if at all, shall be an exception and only in the case of items with limited source of supply. Negotiations shall be held with the lowest evaluated responsive bidder. Counter offers tantamount to negotiations, shall be treated at par with negotiations.

1.35 Award Criteria

Subject to **ITB Clause 1.37**, the Purchaser will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily. The details of the award would be hosted on the CPPP website <https://etenders.gov.in>.

1.36 Purchaser's right to vary Quantities at Time of Award or later

The Purchaser reserves the right at the time of Contract award to increase or decrease the quantity of goods and services originally specified in the Chapter 4 without any change in unit price or other terms and conditions. Further, at the discretion of the purchaser, the quantities in the contract may be enhanced by 30% within the delivery period.

1.37 Purchaser's right to accept any Bid and to reject any or all Bids

The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders.

1.38 Notification of Award

- 1.38.1. Prior to the expiration of the period of bid validity, the Purchaser will notify the successful bidder in writing by registered letter or by cable or telex or fax or e mail that the bid has been accepted and a separate purchase order shall follow through post.
- 1.38.2. Until a formal contract is prepared and executed, the notification of award should constitute a binding contract.
- 1.38.3. Upon the successful Bidder's furnishing of the signed Contract Form and Performance Security pursuant to **ITB Clause 1.41**, the Purchaser will promptly notify each unsuccessful Bidder and discharge its bid security.

1.39 Signing of Contract

- 1.39.1. Promptly after notification, the Purchaser shall send the successful Bidder the Purchase Order.
- 1.39.2. Within twenty-one (21) days of date of the Purchase Order, the successful Bidder shall enter into Contract Agreement as per Chapter 7.

1.40 Order Acceptance

- 1.40.1. The successful bidder should submit Order acceptance within 15 days from the date of issue of Purchase Order, failing which it shall be presumed that the Bidder is not interested and his bid security is liable to be forfeited pursuant to **ITB Clause 1.15.11**.
- 1.40.2. The order acceptance must be received within 15 days. However, the Purchaser has the powers to extend the time frame for submission of order acceptance and submission of Performance Security (PS). Even after extension of time, if the order acceptance / PS are not received, the contract shall be cancelled and limited tenders irrespective of the value shall be invited from the responding firms after forfeiting the bid security of the defaulting firm, where applicable, provided there is no change in specifications. In such cases the defaulting firm shall not be considered again for re-tendering in the particular case.

1.41 Performance Security

Within 21 days of receipt of the notification of award / Purchase Order as per the GCC Clause 2.12, the Supplier shall furnish Performance Security for the amount specified in SCC, valid for the time 60 days after the warranty period.

1.42 Assistance to Bidders:

- 1.42.1 Any queries relating to the Tender Enquiry Document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the NIT.
- 1.42.2 Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.

CHAPTER 2
CONDITIONS OF CONTRACT

A. GENERAL CONDITIONS OF CONTRACT

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Note: The General Conditions of Contract shall form the part of Purchase Order / Contract.

A. GENERAL CONDITIONS OF CONTRACT

2.1. Definitions

The following words and expressions shall have the meanings hereby assigned to them:

Sr. No.	Words / Expressions	Meaning
(a)	Contract	The Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
(b)	Contract Documents	The documents listed in the Contract Agreement, including any amendments thereto.
(c)	Contract Price	The price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract.
(d)	Day	Calendar day
(e)	Completion	The fulfilment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
(f)	GCC	The General Conditions of Contract.
(g)	Goods	All of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract
(h)	Services	The services incidental to the supply of the goods, such as transportation, insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract.
(i)	SCC	The Special Conditions of Contract.
(j)	Subcontractor	Any natural person, private or government entity, or a combination of the above, to which any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
(k)	Supplier	The natural Person, Private or Government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
(l)	Council	The Council of Scientific & Industrial Research (CSIR), registered under the Societies Registration Act, 1860 of the Government of India having its registered office at 2, Rafi Marg, New Delhi-110001, India.
(m)	Purchaser	Any of the constituent Laboratory/Institute of the Council situated at any designated place in India as specified in SCC
(n)	The final destination	The place named in the SCC.

2.2 Contract Documents

2.2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.

2.2.2 Successful bidder shall have to enter into Contract Agreement on Rs.500/- non judicial stamp paper as per Contract Form given in Chapter 7 within 21 days of placement of Purchase Order having value above Rs.25 Lakh or equivalent amount in Foreign Currency.

2.3 Fraud and Corruption

The purchaser requires that bidders, suppliers, contractors and consultants, if any, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy,

(a) The terms set forth below are defined as follows:

I	Corrupt practice	The offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution
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II	Fraudulent practice	A misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract
III	Collusive practice	A scheme or arrangement between two or more bidders, with or without the knowledge of the Borrower, designed to establish bid prices at artificial, non-competitive levels
IV	Coercive practice	Harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract

- (b) The purchaser will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question.

2.4 Joint Venture, Consortium or Association/Amalgamation/Acquisition, Patent Indemnity etc.

If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfilment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.

2.4.1. Amalgamation/Acquisition etc.:

In the event the Manufacturer/Supplier proposes for amalgamation, acquisition or sale its business to any firm during the contract period, the Buyer/Successor of the Principal Company are liable for execution of the contract and also fulfilment of contractual obligations i.e. supply, installation, commissioning, warranty, maintenance/replacement of spares accessories etc. You may confirm this condition while submitting the bid.

2.4.2 Indemnity Bond

In order to safeguard the interest of CSIR-NAL, the supplier should submit Indemnity Bond as given in Chapter-8 (Annexure-J) on Rs.500/- non judicial stamp paper within 21 days of placing of the order for Purchase Order having value above Rs.25 lakh or equivalent amount in Foreign Currency.

2.4.3 Patent Indemnity

- a) The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 2.4.3(a), indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:

(I)	the installation of the Goods by the Supplier or the use of the Goods in India
AND	
(II)	the sale in any country of the products produced by the Goods

- b) If any proceedings are brought or any claim is made against the Purchaser, the Purchaser shall promptly give the Supplier a notice thereof and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claims.

2.5 Scope of Supply

Scope of Supply (i.e. the Goods to be supplied and Related Services to be performed) shall be as specified in the Chapter-4 clause 4.2

2.6 Suppliers' Responsibilities

The Supplier shall supply all the Goods and perform all Related Services included in the Scope of Supply-Clause 2.5 of the GCC and the Delivery & Completion Schedule, as per GCC Clause 2.15 relating to delivery and document.

2.7 Contract price

Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid.

2.8 Copy Right

The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party

2.9 Application

These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.

2.10 Standards

The Goods supplied and services rendered under this Contract shall conform to the standards mentioned in the Technical Specifications and Schedule of Requirements, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods' country of origin and such standards shall be the latest issued by the concerned institution.

2.11 Use of Contract Documents and Information

2.11.1 The Supplier shall not, without the Purchaser's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far, as may be necessary for purposes of such performance.

2.11.2 The Supplier shall not, without the Purchaser's prior written consent, make use of any document or information enumerated above except for purposes of performing the Contract.

2.11.3 Any document, other than the Contract itself, enumerated above shall remain the property of the Purchaser and shall be returned (in all copies) to the Purchaser on completion of the Supplier's performance under the Contract if so required by the Purchaser.

2.12 Performance Security (PS)

2.12.1 Within 21 days of receipt of the notification of award of contract / Purchase Order, the Supplier shall furnish performance security in the amount specified in SCC, valid till 60 days after the warranty period. Alternatively, the PS may also be submitted at the time of release of final payment in cases where part payment is made against delivery & part on installation. The PS, where applicable, shall be submitted in advance for orders where full payment is to be made on Letter of Credit (LC) or on delivery. In this case, submission of PS at the time of negotiation of documents through Bank would be stipulated as a condition in the LC and the BS should be kept valid till such time the PS is submitted.

2.12.2 The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

2.12.3 The Performance Security shall be denominated in Indian Rupees for the offers received for supplies within India and denominated in the currency of the contract in the case of offers received for supply from foreign countries.

2.12.4 In the case of imports, the PS may be submitted either by the principal or by the Indian agent and, in the case of purchases from indigenous sources, the PS may be submitted by either the manufacturer or their authorized dealer / bidder.

2.12.5 The Performance security shall be in one of the following forms:

(a)	A Bank guarantee or stand-by Letter of Credit issued by a Nationalized / Scheduled bank located in India or a bank located abroad in the form provided in the bidding documents.
OR	
(b)	A Banker's cheque or Account Payee demand draft in favour of the purchaser.

2.12.6 The performance security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations, including any warranty obligations, unless specified otherwise in SCC, without levy of any interest.

2.12.7 In the event of any contract amendment, the supplier shall, within 21 days of receipt of such amendment, furnish the amendment to the performance security, rendering the same valid for the duration of the contract, as amended for further period of 60 days thereafter.

2.12.8 The order confirmation should be received within 15 days from the date of notification of award. However, the Purchaser has the powers to extend the time frame for submission of order confirmation and submission of Performance Security (PS). Even after extension of time, if the order acceptance and PS are not received, the contract shall be cancelled and limited tenders irrespective of the value would be invited from the responding firms after forfeiting the bid security of the defaulting firm, where applicable provided there is no change in specifications. In such cases the defaulting firm would not be considered again for re-tendering in the particular case.

2.12.9 Whenever, the bidder chooses to submit the Performance Security in the form of Bank Guarantee, and then he should advise the banker issuing the Bank Guarantee to immediately send by Registered Post (A.D.) an unstamped duplicate copy of the Guarantee directly to the Purchaser with a covering letter to compare with the original BG for the correctness, genuineness, etc.

2.13 Installation, Commissioning, Demonstration, Inspections and Tests

Bidder shall be responsible for Installation, Commissioning, Demonstration, Inspections and Tests wherever applicable and for after sales service during the warranty and thereafter as specified in Chapter-4.

2.14 Packing

2.14.1. The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.

2.14.2. The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Contract including additional requirements, if any, specified in SCC and in any subsequent instructions ordered by the Purchaser.

2.15 Delivery and Documents

2.15.1. Delivery of the Goods and completion and related services shall be made by the Supplier in accordance with the terms specified by the Purchaser in the contract. The details of shipping and/or other documents to be furnished by the supplier are as given below or /and as specified in SCC.

Details of Shipping and other Documents to be furnished by the Supplier are :	
A)	For goods manufactured or supplied from within India
	Within 24 hours of dispatch, the supplier shall notify the purchaser the complete details of dispatch and also supply following documents by registered post / speed post and copies thereof by FAX/email
(a)	Three copies of Supplier's Invoice indicating, inter-alia description and specification of the goods, quantity, unit price, total value
(b)	Packing list
(c)	Certificate of country of origin
(d)	Insurance certificate, if required under the contract
(e)	Railway receipt/Consignment note
(f)	Manufacturer's warrantee certificate and in-house inspection certificate, if any

(g)	Inspection certificate issued by purchaser's inspector, if any
(h)	Any other document(s) as and when required in terms of the contract
NOTE:	
1	The nomenclature used for the item description in the invoice(s), packing list(s) and the delivery note(s) etc. should be identical to that used in the contract. The dispatch particulars including the name of the transporter should also be mentioned in the Invoice(s).
2	The above documents should be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses.
B) For goods manufactured or supplied from abroad	
	Within 24 hours of dispatch, the supplier shall notify the purchaser the complete details of dispatch and also supply following documents by Registered Post / courier and copies thereof by FAX.
(a)	Three copies of supplier's Invoice giving full details of the goods including quantity, value, etc.
(b)	Packing list
(c)	Certificate of country of origin
(d)	Manufacturer's warrantee and Inspection certificate, if any
(e)	Inspection certificate issued by the Purchaser's Inspector, if any
(f)	Insurance Certificate, if required under the contract
(g)	Name of the Vessel / Carrier
(h)	Bill of Lading / Airway Bill
(i)	Port of Loading
(j)	Date of Shipment
(k)	Port of Discharge & expected date of arrival of goods
(l)	Any other document(s) as and when required in terms of the contract
NOTE:	
1	The nomenclature used for the item description in the invoice(s), packing list(s) and the delivery note(s) etc. should be identical to that used in the contract. The dispatch particulars including the name of the transporter should also be mentioned in the Invoice(s).
2	The above documents should be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses.
3	The clearing of the consignment at Bengaluru Airport shall be done by our authorized Custom House Agents (CHA). The corresponding shipping documents may be forwarded to them accordingly. It is advised to give us and our CHA, a pre-alert before the consignment is dispatched. If there is delay in clearing of the consignment for <u>not</u> giving timely pre-alert then demurrage (Ware house charges), if applicable has to be refunded to us.

2.15.2. The terms FOB, FCA, CIF, CIP etc. shall be governed by the rules prescribed in the current edition of the Incoterms published by the International Chambers of Commerce (ICC), Paris.

2.15.3. The mode of transportation shall be as specified in SCC.

2.15.4. The Bidders may please note that the delivery of the system should be strictly within delivery schedule mentioned in the Chapter-4 / Purchase Order.

2.15.5. Goods should not be dispatched until the Bidder receives a firm Purchase Order

2.16 Insurance

2.16.1. Indigenous goods, the Goods supplied under the Contract shall be fully insured in Indian Rupees against any loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in SCC.

2.16.2. Where delivery of the goods is required by the purchaser on CIF / CIP basis for imported goods or FOR destination for Indigenous goods, the supplier shall arrange and pay for Marine / Transit Insurance, naming the purchaser as beneficiary and initiate & pursue claims till settlement, in the event of any loss or damage.

2.16.3. Where delivery is on FOB or FCA basis for imported goods or FOR dispatch station for indigenous goods, then insurance would be the responsibility of the purchaser.

2.16.4. The equipment's to be supplied will be insured by the supplier against all risks of loss or damage from the date of shipment till such time it is delivered at CSIR-NAL site in case of Rupee transaction

2.16.5. With a view to ensure that claims on insurance companies, if any, are lodged in time, the Bidders and / or the Indian agent shall be responsible for follow up with their principals for ascertaining the dispatch details and informing the same to the Purchaser and he shall also liaise with the Purchaser to ascertain the arrival of the consignment after clearance so that immediately thereafter in his presence the consignment could be opened and the insurance claim be lodged, if required, without any loss of time. Any delay on the part of the Bidder / Indian Agent would be viewed seriously and he shall be directly responsible for any loss sustained by the Purchaser on the event of the delay.

2.17 Transportation

2.17.1. Where the Supplier is required under the Contract to deliver the Goods on FOB basis, transport of the Goods, up to and including the point of putting the Goods on board the vessel at the specified port of loading, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract price. Where the Supplier is required under the Contract to deliver the Goods on FCA basis, transport of the Goods and delivery into the custody of the carrier at the place named by the Purchaser or other agreed point shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract price.

2.17.2. Where the Supplier is required under the Contract to deliver the Goods CIF or CIP, transport of the Goods to the port of destination or such other named place of destination in the Purchaser’s country, as shall be specified in the Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.

2.17.3. In the case of supplies from within India, where the Supplier is required under the Contract to transport the Goods to a specified destination in India, defined as the Final Destination, transport to such destination, including insurance and storage, as specified in the Contract, shall be arranged by the Supplier, and the related costs shall be included in the Contract Price.

2.17.4. The clearing of the consignment at Mumbai Airport shall be done by our authorized Custom House Agents (CHA) for CIP / CIF consignments. The details of CHA will be given in the Purchase Order. The corresponding shipping documents may be forwarded to them accordingly. It is advised to give us and our CHA, a pre-alert before the consignment is dispatched. If there is delay in clearing of the consignment for not giving timely pre-alert then demurrage (Ware house charges), if applicable has to be refunded to us by the Supplier / Indian Agent or the same will be deducted from any payment due to Supplier / Indian Agent against this order or any other Purchase order.

2.18 Incidental Services

The supplier may be required to provide any or all of the services, including training, if any, as specified in **Chapter 4: Clause-4.2.**

2.19 Spare Parts

The Supplier shall be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:

(a)	Such spare parts as the Purchaser may elect to purchase from the Supplier, providing that this election shall not relieve the Supplier of any warranty obligations under the Contract; and
(b)	In the event of termination of production of the spare parts:
	(i) Advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and
	(ii) Following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if requested.

2.20 Warranty

- a) The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.
- b) The Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in India.

- c) **Unless otherwise specified in the SCC**, the warranty shall remain valid for Twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the SCC, or for Eighteen (18) months after the date of shipment from the port or place of loading in the country of origin, whichever period concludes earlier.
- d) The warranty on the associated software should cover providing of upgraded version/s, if any, released during the warranty period free of cost.
- e) The bidder shall assure the supply of spare parts after warranty is over for maintenance of the equipment supplied if and when required for a period of 10 years from the date of supply of equipment on payment on approved price list basis.
- f) The equipment must be supported by a Service Centre manned by the principal Bidder's technical support engineers. The support through this Centre must be available 24 hours in a day, seven days a week and 365 days a year. Also it should be possible to contact the Principal's Bidder support Centre on a toll free number/web/mail.
- g) An undertaking from the manufacturer is required in this regard stating that they would facilitate the Bidder, Service provider on regular basis with technology / product updates & extend support for the warranty as well.
- h) Supplier will have to arrange for all the testing equipment & tools required for installation, testing & maintenance etc.
- i) The Principal Supplier must have a local logistics support by maintaining a local spares depot in the country of deployment of the equipment. This is to ensure immediate delivery of spares parts from Principal Supplier of equipment to its channel partner/system integrator.
- j) Details of onsite warranty, Name of Agency that shall maintain during warranty and undertake Annual Maintenance Contract/Comprehensive Service Maintenance Contract beyond warranty shall be given in the offer. In case of foreign quote, the name of Indian Agent who shall maintain during warranty and AMC beyond warranty shall be given in the Technical Offer.
- k) The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- l) Upon receipt of such notice, the Supplier shall, within a reasonable period of time, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.
- m) If having been notified, the Supplier fails to remedy the defect within a reasonable period of time; the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.
- n) In case the Equipment / System remains non-operational or performs below the desired level for more than 1 week after intimation of the fault in the Equipment / System then Warranty period shall be extended for further period for which Equipment / System remained non-operational or performed below the desired level, without prejudice to any other terms and conditions of the Contract.
- o) The defects, if any, during the warranty period are to be rectified free of charge by arranging free replacement wherever necessary.
- p) In case of any replacement during the warranty period the same shall be made free of cost i.e. DDP for import replacement and/or free delivery to NCL for indigenous replacement. All the duties / taxes relating to these replacements have to be borne by the supplier. Dispatch details of such warranty replacements have to be informed in advance to enable us to provide documents for custom clearance.
- q) Any replacements during warranty period should be free of cost. If the defective item has to be sent back to the Principal Supplier, for such replacements / returns to the Principal Supplier / Indian Agent has to bear documentation charges. If the cost of replacement is upto Rs. 5 Lakh then the

documentation charges will be Rs. 5,000 and above Rs. 5 Lakh it is Rs. 10,000. Such charges have to be paid in favour of The Director, CSIR-NAL, Bengaluru. These charges are only for documentation. Any charges regarding packing, forwarding, freight, insurance, etc. should be borne by the Principal supplier / Indian Agent for returning of defective items. In other words, any warranty replacement has to be done immediately/within a week (7 days) without expecting CSIR-NAL to export the defective items to Principal supplier for repair/replacements. All charges involved for re-export of defective items have to be borne by Principal supplier / Indian Agent.

2.21 Terms of Payment

- 2.21.1. The method and conditions of payment to be made to the Supplier under this Contract shall be as specified in the SCC.
- 2.21.2. The Supplier's request(s) for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and the Services performed, and by documents, submitted pursuant to Delivery and document Clause of the GCC and upon fulfilment of other obligations stipulated in the contract.
- 2.21.3. Payments shall be made promptly by the Purchaser but in no case later than thirty (30) days after submission of the Invoice or claim by the Supplier.
- 2.21.4. Payment shall be made in currency as indicated in the contract.

2.22 Change Orders and Contract Amendments

- 2.22.1. The Purchaser may at any time, by written order given to the Supplier pursuant to Clause on Notices of the GCC make changes within the general scope of the Contract in any one or more of the following:

a)	Drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
b)	The method of shipping or packing;
c)	The place of delivery; and/or
d)	The Services to be provided by the Supplier.
e)	The delivery schedule.

- 2.22.2. If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be ascertained within fifteen (15) days from the date of the Supplier's receipt of the Purchaser's change order.
- 2.22.3. No variation or modification in the terms of the contract shall be made except by written amendment signed by the parties.

2.23 Assignment

The Supplier shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent.

2.24 Subcontracts

The Supplier shall notify the Purchaser in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the Supplier from any liability or duties or obligation under the Contract.

2.25 Extension of time

- 2.25.1. Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the Delivery schedule specified by the Purchaser.
- 2.25.2. If at any time during performance of the Contract, the Supplier or its sub-contractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation

and may, at its discretion, extend the Supplier's time for performance with or without penalty, in which case the extension shall be ratified by the parties by amendment to the Contract.

- 2.25.3. Except as provided under the Force Majeure clause of the GCC, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of penalty pursuant to Penalty Clause of the GCC unless an extension of time is agreed upon pursuant to above clause without the application of penalty clause.

2.26 Penalty clause

Subject to GCC Clause on Force Majeure, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as penalty, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services or contract value for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the Percentage specified in SCC. Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause on Termination for Default. The SCC shall also indicate the basis for ascertaining the value on which the penalty shall be applicable.

2.27 Termination for Default

- 2.27.1. The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part:

(a)	If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause on Extension of Time;
(b)	If the Supplier fails to perform any other obligation(s) under the Contract
(c)	If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent or collusive or coercive practices as defined in GCC Clause on Fraud or Corruption in competing for or in executing the Contract.

- 2.27.2. In the event the purchaser terminates the contract in whole or in part, he may take recourse to any one or more of the following action:

(a)	The Performance Security/EMD will be forfeited;
(b)	The Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods similar to those undelivered, and the supplier shall be liable for all available actions against it in terms of the contract.
(c)	However, the supplier shall continue to perform the contract to the extent not terminated.

2.28 Force Majeure

- 2.28.1. Notwithstanding the provisions of GCC Clauses relating to Extension of Time, Penalty and Termination for Default the Supplier shall not be liable for forfeiture of its Performance Security, Liquidated Damages or Termination for Default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 2.28.2. For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 2.28.3. If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof within 21 days of its occurrence. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

2.28.4. If the performance in whole or in part or any obligations under the contract is prevented or delayed by any reason of Force Majeure for a period exceeding 60 days, either party may at its option terminate the contract without any financial repercussions on either side.

2.29 Termination for Insolvency

The Purchaser may at any time terminate the Contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the Purchaser.

2.30 Termination for Convenience

2.30.1. The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

2.30.2. The Goods that are complete and ready for shipment within 30 days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:

(a)	To have any portion completed and delivered at the Contract terms and prices ; and / or
(b)	To cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods / Services and for materials and parts previously procured by the Supplier.

2.31 Settlement of Disputes

2.31.1. The Purchaser and the supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

2.31.2. If, after twenty-one (21) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract. .

2.31.3. The dispute settlement mechanism / arbitration proceedings shall be concluded as under:

(a)	In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Director General, Council of Scientific & Industrial Research and if he is unable or unwilling to act, to the sole arbitration of some other person appointed by him willing to act as such Arbitrator. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to the Contract.
(b)	In the case of a dispute between the purchaser and a Foreign Supplier, the dispute shall be settled by arbitration In accordance with provision of sub-clause (a) above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules.

2.31.4. The venue of the arbitration shall be the place from where the Purchase Order or Contract is issued.

2.31.5. Notwithstanding any reference to arbitration herein,

(a)	the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
(b)	the Purchaser shall pay the Supplier any monies due the Supplier.

2.32 Governing Language

The Contract shall be written in English language which shall govern its interpretation. All correspondence and other documents pertaining to the Contract, which are exchanged by the parties, shall be written in the English language only.

2.33 Applicable Law / Jurisdiction

The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction as specified in SCC.

2.34 Notices

2.34.1. Any notice given by one party to the other pursuant to this contract / order shall be sent to the other party in writing or by cable, telex, FAX, e-mail or / and confirmed in writing to the other party's address specified in the SCC.

2.34.2. A notice shall be effective when delivered or on the notice's effective date, whichever is later.

2.35 Taxes and Duties

2.35.1. For goods manufactured outside India, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside India.

2.35.2. For goods Manufactured within India, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred till its final manufacture / production.

2.35.3. If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in India, the Purchaser shall make its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

2.35.4. All payments due under the contract shall be paid after deduction of statutory levies (at source) (like ESIC, IT, etc.) wherever applicable.

2.36 Right to use Defective Goods

If after delivery, installation and within commissioning & acceptance and within warranty period, the operation or use of the goods proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation.

2.37 Protection against Damage

The system shall not be prone to damage during power failures and trip outs. The normal voltage and frequency conditions available at site as under:

- (a) Voltage 230 volts – Single phase or 415 Volt for 3 phase ($\pm 10\%$)
- (b) Frequency 50 Hz.

2.38 Site preparation and installation

The Purchaser is solely responsible for the construction of the equipment sites unless otherwise specified in Chapter 4 in compliance with the technical and environmental specifications defined by the Supplier. The Purchaser will designate the installation sites before the scheduled installation date to allow the Supplier to perform a site inspection to verify the appropriateness of the sites before the installation of the Equipment, if required. The supplier shall inform the purchaser about the site preparation, if any, needed for installation, of the goods at the purchaser's site immediately after notification of award / contract.

2.39 Annual Maintenance Contract

- 2.39.1. The bidders should also quote for Annual Maintenance Contract after warranty for subsequent years. CSIR-NAL at its discretion may award / utilise these quotes for AMCs.
- 2.39.2. No sub-contracting will be allowed for installation or maintaining system/ equipment / instrument during or after warranty period in case AMC is awarded
- 2.39.3. Mention the charges for comprehensive maintenance contract separately in Commercial bid (for post warranty period).

2.40 Integrity Pact

- 2.39.1. As per directive of the CVC all organizations including CSIR laboratories / institutes have to adopt an Integrity pact (IP) to ensure transparency, equity and competitiveness in major Public procurement having procurement value above Rs.3 Crore. The integrity pact envisages an agreement between the prospective bidders / Bidders with the buyer committing the persons / officials of both the parties with the aim not to exercise any corrupt influence on any aspect of the contract. Only those bidders / Bidders, who are willing to enter in to such an integrity pact with the Purchaser, would be competent to participate in the bidding.
- 2.39.2. IP also envisages Panel of Independent External Monitors (IEMs) which shall be provided / recommended by CSIR / its labs and institutes with the approval of by CVC.
- 2.39.3. The integrity Pact would be effective from the date of invitation of bids till complete execution of the contract.
- 2.39.4. **The SCC shall specify whether there is a need to enter into a separate integrity pact or not.** If the Integrity Pact is required for the Tender, then the format of Integrity Pact is as given in **Chapter – 8.**

CHAPTER 2

B. SPECIAL CONDITIONS OF CONTRACT (SCC)

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

GCC Clause	Special Condition of Contract (SCC)										
GCC 2.1.1(l)	<p>The Purchaser is: The Director CSIR- National Aerospace Laboratories HAL Airport Road, Kodihalli, Bengaluru – 560017 Karnataka-India Tel #: 00 91 80 25086040/6041/6044 Fax #: 00 91 80 25269611 Email: purchasek@nal.res.in, mkala@nal.res.in Website: www.nal.res.in</p>										
GCC 2.1.1(m)	<p>The Final Destination is: CSIR- National Aerospace Laboratories HAL Airport Road, Kodihalli, Bengaluru – 560017 Karnataka-India</p>										
GCC 2.15.3	<p>Delivery – Mode of Shipment:</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 5%; text-align: center;">(a)</td> <td>In case of supplies from within India, the mode of transportation shall be by Road.</td> </tr> </table>	(a)	In case of supplies from within India, the mode of transportation shall be by Road .								
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GCC 2.13.1	<p>Performance Security/Performance Bank Guarantee</p> <p>The amount of the Performance Bank Guarantee shall be 10% of the contract value to be submitted within 21 days from the date of PO valid up to 60 days after the date of completion of contract obligations including warranty obligations.</p>										
GCC 2.16.1	<p>Insurance</p> <p><u>Within India</u> The Insurance shall be for an amount equal to 110% of the invoice value of the contract from “warehouse to warehouse (final destination)” on “all risk basis” including strikes, riots and civil commotion, in addition to storage policy for 60 days is advised so as to ensure the inspection at the time of opening the packages.</p>										
GCC 2.20.3	<p>Warranty:</p> <p>The period of validity of the Warranty shall be:</p> <p>The warranty shall remain valid for One Year (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted by CSIR-NAL at the final destination.</p>										
GCC 2.21.1	<p>Payment Details:</p> <p>The method and conditions of payment to be made to the Bidder under this Contract shall be as follows:</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 5%; text-align: center;">A</td> <td>Payment for Goods and Services supplied from India:</td> </tr> <tr> <td></td> <td>The payment shall be made in Indian Rupees, as follows:</td> </tr> <tr> <td style="text-align: center;">(a)</td> <td>100% after supply, Installation and Satisfactory Acceptance.</td> </tr> <tr> <td style="text-align: center;">(b)</td> <td>E-Payment: All payments, CSIR-NAL prefers to make Electronic Transfers (RTGS) through State Bank Of India, NAL Branch, Bengaluru.</td> </tr> <tr> <td style="text-align: center;">(e)</td> <td>All payments due under the Contract shall be paid after deduction of statutory levies at source (like ESIC, Income Tax, etc.), wherever applicable.</td> </tr> </table>	A	Payment for Goods and Services supplied from India:		The payment shall be made in Indian Rupees, as follows:	(a)	100% after supply, Installation and Satisfactory Acceptance.	(b)	E-Payment: All payments, CSIR-NAL prefers to make Electronic Transfers (RTGS) through State Bank Of India, NAL Branch, Bengaluru.	(e)	All payments due under the Contract shall be paid after deduction of statutory levies at source (like ESIC, Income Tax, etc.), wherever applicable.
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GCC 2.27.1	<p>Liquidated Damages / Penalty Clause</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 5%; text-align: center;">(a)</td> <td>As time is the essence of the contract, Delivery period mentioned in the Purchase Order should be strictly adhered to. Otherwise CSIR-NAL will have to forfeit EMD/SD and also LD clause will be applicable /enforced</td> </tr> <tr> <td style="text-align: center;">(b)</td> <td>If the Bidder fails to Supply, Install and Commission the system as per specifications mentioned in the order within the due date including training, the Bidder is liable to pay liquidated damages of 0.5% of order value per every week of delays subject to a maximum of 10% beyond the due date. Such money will be deducted from any amount due or which may become due to the Bidder</td> </tr> <tr> <td style="text-align: center;">(c)</td> <td>CSIR-NAL reserves the right to cancel the order in case the delay is beyond the due date. Penalties, if any, will be deducted from the EMD/PS.</td> </tr> </table>	(a)	As time is the essence of the contract, Delivery period mentioned in the Purchase Order should be strictly adhered to. Otherwise CSIR-NAL will have to forfeit EMD/SD and also LD clause will be applicable /enforced	(b)	If the Bidder fails to Supply, Install and Commission the system as per specifications mentioned in the order within the due date including training, the Bidder is liable to pay liquidated damages of 0.5% of order value per every week of delays subject to a maximum of 10% beyond the due date. Such money will be deducted from any amount due or which may become due to the Bidder	(c)	CSIR-NAL reserves the right to cancel the order in case the delay is beyond the due date. Penalties, if any, will be deducted from the EMD/PS.				
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	(d)	The maximum amount of penalty shall be 10% .
	(e)	The liquidated damages shall be levied on the delivered price of the delayed Goods or unperformed Services or contract value.
GCC 2.34.1	Applicable Law / Jurisdiction The place of jurisdiction is Bengaluru , India.	
GCC 2.35.1	Notices For notices, the Purchaser's address is The Director CSIR- National Aerospace Laboratories PB No.1779, HAL Airport Road, Kodihalli, Bengaluru - 560017 Karnataka-India Tel #: 00 91 80 25086040/6041/6044 Fax #: 00 91 80 25269611 Email: purchasek@nal.res.in , mkala@nal.res.in	
GCC 2.41	Integrity Pact - The integrity pact is not to be signed. However, efforts must be made to realize the objectives & spirits thereof.	

CHAPTER 3

(To be filled by the bidder and enclosed with the Technical Bid)

SCHEDULE OF REQUIREMENT

The Schedule of Requirement must clearly specify **the time frame required (Schedule) for delivery of goods and services to be completed** by the bidder (in reference to Scope of Supply given in Clause-4.2 of Chapter-4) if the Contract is awarded for the offer / proposal submitted by the bidder in response to this Tender.

A) Delivery Schedule:

Sr. No.	Brief Description of Goods and Services	Quantity & Unit	Delivery Schedule

Period of delivery shall start from : _____

B) Term of delivery / Delivery Term :

Goods from Abroad	
Goods from India	

C) Time frame required for conducting installation, commissioning of the equipment, acceptance test, training, etc. after the arrival of consignment or before dispatch of equipment:

Sr. No.	Activity	Time Frame
1	Site Preparation (if required)	
2	Installation & Commissioning	
3	Acceptance Test	
4	Training	
5		

Place : _____

Signature of the Bidder : _____

Date : _____

CHAPTER 4

SPECIFICATIONS AND ALLIED TECHNICAL DETAILS

4.1 Detailed Specification

The **scope of tender** documents consists of following systems and their respective terminology used across this document.

1. **Input Output Termination Panel** (shall be denoted by “**IOTP**” in short across this document)
2. **Backplane** (shall be denoted by “**BKP**” in short across this document)
3. **ATR Chassis with Mounting Tray** (shall be denoted by “**CHS**” in short across this document)
4. **Fan Control Module** (shall be denoted by “**FCM**” in short across this document)
5. **Test Extender Board** (To extend plug-in cards for easier testing)

IMPORTANT NOTES:

- 4.1. N1:** The brief technical specification of respective sub-system is provided at appropriate places. Bidders are requested to study in detail before submitting the bid.
- 4.1. N2:** Scope of this tender is to Design, Development and Testing of IOTP, BKP and CHS only.
- 4.1. N3:** The certification is NOT the scope of this tender.
- 4.1. N4:** However, the Design needs to be complied with the specification and DO-Standard so that the same can be taken to certification in future.
- 4.1. N5:** In case of conflict between the technical specification provided here and with the RTCA DO or respective applicable documents, the technical specification as per RTCA/standard document shall be final.

4.1.1 Specification of Input Output Termination Panel (IOTP)

4.1.1.1. Functional Specification

- a. IOTP shall provide main interface for all Input and Output Signals and Power lines.

4.1.1.2. Operational Specification

- a. IOTP shall have POWER ON indication.
- b. 8 LED are required for the various functional mode indication. Bidder needs to clear the functionality of the LED operation. The functionality shall be provided after Purchase Order.

4.1.1.3. Physical Specification

- a. IOTP card should be of 3U form factor.

4.1.1.4. Electrical Specification

- a. IOTP shall provide Passive Diode ORing mechanism for dual power input of 28VDC.3
- b. IOTP shall provide loopback test mechanism for power lines.

4.1.1.5. Interface Specification

The I/O Channels list are as follows:

S.N.	I/O Channel	Number/Type of Channels
1	ARINC 429 Channel	
a.	ARINC 429 Input	24 Channel
b.	ARINC 429 Output	08 Channel
2	ARINC 664 Channel	
a.	ARINC 664	02 Channel (4 Port)
3	ETHERNET Channel	
a.	ETH	02 Channel
4	ARINC 825 Channel	
a.	ARINC 825	02 Channel
5	Analog Channel	
a.	Analog Input	04 Channel
6	Discrete Channel	
a.	Discrete Input	8 - Discrete Ground/Open 2 - Discrete 28V/Open
b.	Discrete Output	8 - Discrete Ground/Open 2 - Discrete 28V/Open
7	RS422 Channel	
a.	RS422	02 Channel
8	ARINC 708 Channel	
a.	ARINC 708 Input	02 Channel

S.N.	I/O Chanel	Number/Type of Channels
9	RS232 Channel	
a.	RS232	02 Channel
10	ARINC 818 Channel	
a.	ARINC 818 Output	06 Channel
11	DVI Channel	
a.	DVI-D Output	06 Channel
12	Power	
a.	Power Input (28 VDC)	02 Channels

4.1.1.6. Environmental Specification

- a. The IOTP card **design should comply with DO-160G** applicable sections are as follows.
 - I. Temperature and Altitude, Category A1 (ref. Section 4.0).
 - II. Temperature Variation, Category C (ref. Section 5.2)
 - III. Humidity, Category A (ref. Section 6.2)
 - IV. Operational Shocks and Crash Safety, Category A (ref. Section 7.1.1)
 - V. Vibration, Category R (ref. Section 8.0)
 - VI. Voltage Spike, Category B, (ref. Section 17.0)
 - VII. Induced Signal Susceptibility, Category BC (ref. Section 19.0)
 - VIII. RF Susceptibility (Radiated and Conducted), Category S (ref. Section 20.0)
 - IX. Emission of RF Energy, Category B (ref. Section 21.0)
 - X. Lighting Induced Transient Susceptibility, Category B1F4 (ref. Section 22.0)
 - XI. Electrostatic Discharge. Category A, (ref. Section 25.0)

4.1.1.7. Protection Specification

- a. IOTP card shall be designed with reverse polarity and transient protection mechanism.

4.1.1.8. Fabrication Specification

- a. IOTP card shall be designed and fabricated using Cat-III as per IPC-610C PCB design and fabrication guidelines.

4.1.1.9. Connector Specification

- a. IOTP card shall use 38999 Series-III connectors (Approx. Total pins are 300).
- b. IOTP card shall use fibre optic connector with electrical to optical transceiver built in.

4.1.2 Specification of Backplane (BKP)

4.1.2.1. Functional Specification

- a. BKP Shall be a passive module compliant with VITA-46 and VITA-48.2.
- b. BKP shall provide 4 VPX Slots.
- c. BKP shall have provision to accommodate Power Supply (as per VITA 62), approximately about 2 slots space in terms of VPX.
- d. BKP shall have provision to accommodate IOTP module.

4.1.2.2. Operational Specification

- a. BKP shall be of conduction cooled

4.1.2.3. Physical Specification

- a. BKP shall be of 3U form factor.
- b. BKP shall support 0.8" pitch VPX slots, as per VITA 46.0.
- c. VPX slots on BKP shall be keyed slots, as per VITA 46.0.

4.1.2.4. Electrical Specification

- a. BKP shall provide 28VDC input connectivity between custom designed IOTP module and the VITA 62 compliant COTS Power Supply module.
- b. BKP shall support VITA 46 power rails guidelines.
- c. BKP shall follow VITA 68.1 design guidelines.

4.1.2.5. Interface Specification

a. BKP-IOTP

S.N.	I/O Chanel	Number/Type of Channels
1	ARINC429 Channel	
a.	ARINC 429 Input	24 Channel
b.	ARINC 429 Output	08 Channel
2	A664 Channel	
a.	ARINC 664	04 Channel (4 Port)
3	ETHERNET Channel	
a.	ETH	02 Channel
4	A825 Channel	
a.	ARINC 825	02 Channel
5	Analog Channel	
a.	Analog Input	04 Channel
6	Discrete Channel	
a.	Discrete Input	8 - Discrete Ground/Open 2 - Discrete 28V/Open
b.	Discrete Output	8 - Discrete Ground/Open 2 - Discrete 28V/Open
7	RS422 Channel	
a.	RS422	02 Channel
8	A708 Channel	
a.	ARINC 708 Input	02 Channel
9	RS232 Channel	
a.	RS232	02 Channel
10	ARINC818 Channel	
a.	ARINC 818 Output	6 Channel
11	DVI Channel	
a.	DVI-D Input	6 Channel
12	Power	
a.	Power Input (28VDC)	2 Channels

b. BKP VPX Slot-1

S.N.	I/O Chanel	Number/Type of Channels
1	PCIe	
a.	PCIe (Gen 2, x1)	01 Channel
2	A429 Channel	
a.	ARINC 429 Input	12 Channels
b.	ARINC 429 Output	04 Channels
3	A664 Channel	
a.	ARINC 664	02 Channels (2 ports)
4	A825 Channel	
a.	ARINC 825 (CAN)	02 Channels
5	Analog Channel	
a.	Analog Input	02 Channels
6	Discrete Channel	
a.	Discrete Input	4 - Discrete Ground/Open 1 - Discrete 28V/Open
b.	Discrete Output	4 - Discrete Ground/Open 1 - Discrete 28V/Open
7	A708 Channel	
a.	ARINC 708	01 Channel
8	A818 Channel	
a.	ARINC 818 Output	3 Channels
9	DVI-D Channel	
a.	DVI-D Input	3 Channels

c. BKP VPX Slot-2

S.N.	I/O Chanel	Number/Type of Channels
1	PCIe	
a.	PCIe (Gen 2, x1)	01 Channel
2	A429 Channel	
a.	ARINC 429 Input	12 Channels
b.	ARINC 429 Output	04 Channels
3	A664 Channel	
a.	ARINC 664	02 Channels (2 ports)
4	A825 Channel	
a.	ARINC 825 (CAN)	02 Channels
5	Analog Channel	
a.	Analog Input	02 Channels
6	Discrete Channel	
a.	Discrete Input	4 – Discrete Ground/Open 1 – Discrete 28V/Open
b.	Discrete Output	4 – Discrete Ground/Open 1 – Discrete 28V/Open
7	A708 Channel	
a.	ARINC 708	01 Channels
8	A818 Channel	
a.	ARINC 818 Output	3 Channels
9	DVI Channel	
a.	DVI-D Input	3 Channels

d. BKP VPX Slot-3

S.N.	I/O Chanel	Number/Type of Channels
1	PCIe	
a.	PCIe (Gen 2, x1)	02 Channels
2	PCIe	
a.	PCIe (Gen 2, x4)	01 Channel
3	ETHERNET Channel	
a.	Ethernet	02 Channels
4	RS-422 Channel	
a.	RS-422	02 Channels
5	RS-232 Channel	
a.	RS-232	02 Channels
6	I2C	
a.	I2C	01 Channel

e. BKP VPX Slot-4

S.N.	I/O Chanel	Number/Type of Channels
1	PCIe	
a.	PCIe (Gen 2, x4)	01 Channel
2	DVI-D	
a.	DVI-D Output	06 Channels

f. BKP – Power Supply

S.N.	Power Rail
1	Input (power from aircraft via IOTP)
2	Output (power to VPX slots)
a.	VS1 (12V)
b.	VS2 (3.3V)
c.	VS3 (5V)
3	Output (Aux power)
a.	3.3V_Aux
b.	+12V_Aux
c.	-12V_Aux
4	I2C Channel
a.	I2C-01 Channel

g. Fan Control Module (FCM) – Add on

S.N.	Power Rail
1	Input 28VDC
2	Output
a.	28 VDC – Fan 1
b.	28 VDC – Fan -2
3	I2C Channel
a.	01 Channel
4	Tacho Input
a.	From Fan -1
b.	From Fan -2

4.1.2.6. Environmental Specification

- a. The BKP design should comply with DO-160G applicable sections are as follows.
 - I. Temperature and Altitude, Category A1 (ref. Section 4.0).
 - II. Temperature Variation, Category C (ref. Section 5.2)
 - III. Humidity, Category A (ref. Section 6.2)
 - IV. Operational Shocks and Crash Safety, Category A (ref. Section 7.1.1)
 - V. Vibration, Category R (ref. Section 8.0)
 - VI. Voltage Spike, Category B, (ref. Section 17.0)
 - VII. Induced Signal Susceptibility, Category BC (ref. Section 19.0)
 - VIII. RF Susceptibility (Radiated and Conducted), Category S (ref. Section 20.0)
 - IX. Emission of RF Energy, Category B (ref. Section 21.0)
 - X. Lighting Induced Transient Susceptibility, Category B1F4 (ref. Section 22.0)
 - XI. Electrostatic Discharge. Category A, (ref. Section 25.0)
 - XII. Temperature and Altitude, Category A1 (ref. Section 4.0).

4.1.2.7. Fabrication Specification

- a. BKP card shall be designed and fabricated using Cat-III as per IPC-610C PCB design and fabrication guidelines.

4.1.2.8. Connector Specification

- a. BKP shall have VPX connectors as per VITA-46.0. The slot profile of the slots shall be shared after placement of purchase order.
- b. BKP shall provide a connector as per VITA-62 for power supply module.
- c. BKP shall provide a high density connector for IOTP module.

4.1.3 Specification of ATR Chassis (CHS)

4.1.3.1. Functional Specification

- a. ATR Chassis shall be compliant with ARINC 404A.
- b. ATR Chassis shall provide 7 slots (including Power Supply) for 3U plugin Cards.
- c. ATR Chassis shall provide IOTP card mounting design.
- d. ATR Chassis shall have two fan for conduction cooling. Cooling shall be achieved with fan by suction.
- e. ATR Chassis shall provide appropriate EMI/EMC gaskets wherever is required.
- f. ATR Chassis shall be constructed using Aluminium Alloy 6061 with appropriate inside and outside anodized coating.
- g. ATR Chassis shall have suitable mounting tray.
- h. ATR Chassis tray shall be as per ARINC 404A.

4.1.3.2. Operational Specification

- a. ATR Chassis shall have conduction cooled heat transfer mode between cards to chassis walls.
- b. ATR chassis shall have airflow from front to rear, where the fan mounted at rear panel and passing through side wall heat exchangers.
- c. ATR Chassis shall be designed for max power handling capacity of 250 watts excluding fan.

4.1.3.3. Physical Specification

- a. ATR Chassis overall size should be ¾ ATR as per ARINC 404A.
- b. ATR Chassis should be of 3U form factor.
- c. ATR Chassis shall have 0.8-inch pitches for 4 slots and 1-inch pitch for 2 slots.

4.1.3.4. Electrical Specification

- a. ATR Chassis shall provide appropriate grounding arrangement (internal and external).

4.1.3.5. Environmental Specification

- a. The **CHS design should comply with DO-160G** applicable sections are as follows.
 - I. Temperature and Altitude, Category A1 (ref. Section 4.0)
 - II. Temperature Variation, Category C (ref. Section 5.2)
 - III. Humidity, Category A (ref. Section 6.2)
 - IV. Operational Shocks and Crash Safety, Category A, Category F, R [As per FAR 25.61] (ref. Section 7.1.1, Section 7.3.3)
 - V. Vibration
 - a. Category S (ref. Section 8.2.1.1)
 - b. Category H (ref. Section 8.2.1.3)
 - c. Sinusoidal, Random (ref. Section 8.4.1)
 - d. Acceleration Power Spectral Density (APSD) (ref. Section 8.4.2)
 - e. Category B. B1, B2, B3, B4, R (ref. Section 8.5)
 - f. Category Z (ref. Section 8.6)
 - g. Category -Curve B (ref. Section 8.7)
 - VI. Sand and Dust, Category S (ref. Section 12.0)
 - VII. Magnetic Effect, Category C (ref. Section 15)
 - VIII. Power Input, Category B (50ms Power Interruption), VIT Transients (ref. Section 16.0)
 - IX. Audio Frequency Conducted Susceptibility-Power Inputs, Category B (ref. Section 18)
 - X. Induced Signal Susceptibility, Category BC (ref. Section 19.0)
 - XI. Emission of RF Energy, Category B (ref. Section 21.0)
 - XII. Lighting Induced Transient Susceptibility, Category B1F4 (ref. Section 22.0)
 - XIII. Electrostatic Discharge. Category A, (ref. Section 25.0)

4.1.4 Specification of Fan Control Module (FCM)

- a. Fan control module shall drive two fans which are mounted in rear side of box.
- b. Fan control module shall be attached to the backplane (piggyback) with appropriate mounting mechanism.
- c. Fan control module shall receive 28VDC as per DO160G power supply from backplane.
- d. Fan control module shall provide all necessary protection including EMI and transient protection on 28VDC input.
- e. Fan control module shall derive other internal voltages required to operate from 28VDC.
- f. Fan control module shall have fan controller for regulating the speed of the fan/s.
- g. Fan control module shall have full speed override input on I2C interface to run the fan at full speed when required.
- h. Fan control module shall have I2C channel for interface configuration which shall receive the command and control for speed control and full seed override from processor.
- i. Fan control module shall receive tachometer (fan's speed) input from fan/s.
- j. Fan control module shall have PWM output for regulating the speed of fan/s.

4.1.5 Scope of Work

Bidder's scope of work defines as listed below:

- a. The selected Bidder shall take full responsibility for Design, Development and Testing of Input Output Termination Panel (IOTP), Backplane (BKP), ATR Chassis (CHS) with **Mounting Tray**, Fan Control Module (FCM) and **Test Extender Board**.
- b. The Bidder shall interface BKP with the IOTP and chassis and demonstrate the working of it.
- c. The Bidder shall integrate the complete IOTP, BKP and CHS system with NAL's System and demonstrate the working.
- d. The Bidder shall perform all testing and test report generation which is required during system development as per Acceptance Test Procedure (ATP).

4.1.6 CSIR-NAL's scope of work defines as listed below:

- a. CSIR-NAL shall provide the platform for IOTP, BKP and CHS integration and demonstration.
- b. CSIR-NAL shall provide other cards for integration.
- c. CSIR-NAL shall provide necessary details to perform integration with NAL's system.

4.1.7 Note for Scope of Work

- a. Apart from what is mentioned for CSIR-NAL's scope of work, whatever left related to this project shall be part of Bidder's scope of work even if it is not mentioned or left out in the Bidder's scope of work which shall be under scope of this project only and mutually agreed at the start of the project

4.1.8 Organization Wise Responsibility

a. Bidder responsibility for this project

- i. It shall be Bidder's responsibility to design and develop the IOTP, BKP with Mounting Tray, CHS, FMC and Test Extender Board as per tender document.
- ii. Hardware design and development shall be Bidder's responsibility.
- iii. Test related to the Hardware shall be done by Bidder.
- iv. Any/All technical test related to the any components of IOTP, BKP, CHS, FCM and Test Extender Board shall be done by Bidder and reports have to be approved by both CSIR-NAL as well as Bidder.
- v. The test schedules shall be defined by Bidder and have to be approved by CSIR-NAL.
- vi. All document generation shall be done by Bidder and has to be reviewed by Bidder and CSIR-NAL.
- vii. Integration of the IOTP, BKP and CHS with NAL system shall be Bidder's responsibility where CSIR-NAL will assist in integration.

b. CSIR-NAL's responsibility for this project

- i. CSIR-NAL shall facilitate the integration to complete the ATP as per tender document.
- ii. CSIR-NAL shall provide the support required to prove the functionality of the developed system.
- iii. CSIR-NAL shall provide system's high level design and mechanical form factor for integration compatibilities with the existing/under-development system.
- iv. CSIR-NAL shall assist in integration of the IOTP, BKP and CHS with NAL's System.

c. Note for Organization Responsibility

- i. Apart from what is mentioned for CSIR-NAL's responsibility, whatever left related to this project shall be part of Bidder's responsibility even if it is not mentioned or left out in the Bidder's responsibility which shall be under scope of this project only and mutually agreed at the start of the project.

4.2 Scope of Supply

Scope of Supply includes the following:

- (i) Supply of the equipment / system as specified in 4.1 above
- (ii) Installation & Commissioning
- (iii) Training as specified below in 4.4
- (iv) On site comprehensive Warranty for 1 Year as specified in 4.5 (i) below

Table 1: Scope of deliverables

Case	Description of Activity	Deliverable
Project Deliverables		
1	IOTP Set	Ref section 4.2.1 (Project Deliverables)
2	Backplane Set	Ref section 4.2.1 (Project Deliverables)
3	Chassis with Fan and Mounting tray Set	Ref section 4.2.1 (Project Deliverables)
4	Fan Control Module Set	Ref section 4.2.1 (Project Deliverables)
5	Test Extender Board	Ref section 4.2.1 (Project Deliverables)
6	NRE Cost of the Project	Ref section 4.2.2 (Project Files/Artefacts Deliverables)
7	Delivery, installation, testing and ATP (if extra)	
8	Training charges (if extra)	
9	Any other charges (if extra)	
10	List of Background IP	

4.2.1. Project Deliverables

The deliverables of **IOTP, BKP, CHS, FCM** and **Test Extender Board** with **Cables** and **Connectors** for this project comprise of Hardware, Design files and Documents as listed in subsequent sections.

S.N.	Deliverable Item	Format of Deliverable	Quantity
1	Fully Functional IOTP Hardware with Accessories	Hardware	02 Set
2	Fully Functional BKP Hardware with Accessories	Hardware	02 Set
3	Fully Functional CHS Hardware with Accessories with Fan and Mounting tray	Hardware/Box	01 Set
4	Fully Functional FCM Hardware with Accessories	Hardware	02 Set
5	Fully Functional Test Extender Board	Hardware	02 Set
6	Associated Cables	Hardware	02 Set
7	Mating connectors with back shell and strain relieving accessories	Hardware	02 Set
8	Documents (as listed)	Soft	01 Set

4.2.2. Project Files/Artefact Deliverables

S.N.	Deliverable Item	Format of Deliverable	Quantity
1	Project Files Related to this project as specified with relevant option	See below	As listed
2	Project Document in Microsoft Word and PDF format as specified with relevant option	See below	As listed

Deliverable Project/Design Files (As applicable for IOTP, BKP, FCM and Chassis):

- a. Main Project by Name
- b. PO Copy (PDF/Word)
- c. Technical Specification
- d. Hardware Design
 - i. Architecture Design (Word/PDF and/or PPT files)
 - ii. Components Data Sheet (All including Capacitors and Resistors with Part Number and Footprint details in PDF)
 - iii. Schematic (Cadence Files/Native format of Tool used and PDF File)
 - iv. Board Design (Cadence Orcad Files/ Native format of Tool used and PDF File)
 - v. Symbol Library (All used in this design)
 - vi. IBIS Models (*.ibs file used in SI Analysis)
 - vii. Fabrication File (Gerber Files and - Associated tech files if used)
 - viii. Released Design (One copy of PDF Generated Schematics and Board)
- e. Complete Hardware Analysis Files (Native/Source format with Reports in Word and Pdf)
- f. Complete Mechanical Design Files (Native/Source format with Reports in Word and Pdf)
- g. Complete Mechanical Analysis Files (Native/Source format with Reports in Word and Pdf)
- h. Source of Software/Firmware Codes (If applicable)
- i. Tools Details
 - i. Tools.docx (All Tools Details used in Projects with version details in Word file)
- j. Project Documents
 - i. Technical Design (Document in Word and PDF format)
 - ii. User Manual (Word and PDF format)
 - iii. All Presentations (Given during projects execution - By Date)
 - iv. System Test Schedules and Reports
 - v. System, Hardware and Software User Guide
 - vi. Details of document required as per table below

S.No.	Documents Type	Documents List
1	Requirements Documents	System Requirement Specification (SRS)
		Hardware Requirements Documents (HRD)
2	Design Documents	System Design Documents (SDD)
		Hardware Design Documents (HDD)
3	Hardware Design	Complete Schematic Diagrams
		BoM Documents with Ordering Part Number, Make, Model number with Data Sheet for Each Components
4	Hardware Analysis Documents	Power Integrity Analysis Documents
		Signal Integrity Analysis Documents
		EMI/EMC Analysis Documents

S.No.	Documents Type	Documents List
		Thermal Analysis Documents
		Reliability Analysis Document
		Mechanical Analysis Documents
		Safety Analysis Document
		Derating Analysis Document
		Power Budget Analysis
5	Mechanical Analysis Document	Acceleration, Shock, Vibration, Bending and stress analysis, Pull force documents
6	System Test Schedules and Reports	System Test Schedule Documents
		System Test Report Documents
7	Hardware Test Schedules and Reports	Hardware Test Schedule Documents
		Hardware Test Report Documents
8	Acceptance Test Documents	Acceptance Test Documents
9	Tool Chain Documents	Hardware Design and Analysis Tool Chain Documents
10	User Guide	System User Guide
		Hardware User Guide
		ATP User Guide
11	Audit Documents	Design Audit Documents
		Test Audit Documents
		QA Audit Documents
12	PCB Fabrication Document	Fabrication Quality Process Document
13	Mechanical Fabrication Document	Fabrication Quality Process Document
14	Any Other	Any Other Documents During Project Execution

4.2.3. Project Deliverables – Background IP

- a. Bidder shall clearly list the Background IP (If applicable) intended to use in this project.
- b. The background IP listed shall be provided in Technical Bid itself.
- c. The Background IP Listed in Technical Bid shall be final and there shall be NO addition in the list at later stage.
- d. Apart from Background IP listed in Technical Bid, whatever developed part of this project shall be owned by CSIR-NAL and the same shall be transferred to CSIR-NAL.
- e. Bidder shall provide Unconditional use of Background IP to NAL for this System.
- f. The License Fee (If applicable to Background IP) shall be listed in Commercial Bid.
- g. The License Fee shall be ONE Time only.
- h. CSIR-NAL reserve the right to accept all or some Background IP to be used in this project.
- i. If NOT-All IP are accepted by CSIR-NAL, the required IP needs to be developed as part of this project which shall be owned by CSIR-NAL.

4.2.4. Background Intellectual Property Related Definitions

- i. Background IP if listed to be used in this project, needs to be justified with relevant artefacts.
- ii. Bidder shall show the genuine reason to use background IP.
- iii. Bidder shall provide artefacts and proof to Technical Evaluation Committee (TEC) that the listed background IP to be used in this project is legitimate one.
- iv. The Technical Evaluation Committee (TEC) Committee shall decide and recommend which listed background IP is legitimate one and same may be accepted.
- v. **WHAT IS BACKGROUND IP?**
 1. The full-fledged proved system/software/code with artefacts provided during Technical Presentation in front of Technical Evaluation Committee (TEC) shall be treated as Background IP subject to 4.2.4.iv clause.
 2. Software/Code if used in similar system may be treated as Background IP provided Bidder shall provide the artefacts and proof of the same subject to 4.2.4.iv clause.

vi. WHAT IS NOT BACKGROUND IP?

1. Bits and pieces work related to this or similar system shall NOT be treated as a Background IP.
2. Merely knowledge of the system shall NOT be a Background IP.

4.3 Inspection & Tests

4.3.1 General

- (i) The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified here. The Supplier shall at its own expense and at no cost to the NAL carry out all such tests and/or inspections of the Goods and Related Services as are specified in the chapter 4 or as discussed and agreed to during the course of finalization of contract.
- (ii) The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at the point of delivery and/or at the Goods final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data - shall be furnished to the inspectors at no charge to the NAL
- (iii) Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.
- (iv) The NAL or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the NAL and what inspections and tests the NAL requires and where they are to be conducted. The NAL shall notify the Supplier in writing in a timely manner of the identity of any representatives retained for these purposes.
- (v) Should any inspected or tested Goods fail to conform to the specifications, the purchaser may reject the goods and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Purchaser.
- (vi) The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival at final destination shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the Purchaser or its representative prior to the Goods shipment.
- (vii) The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.
- (viii) With a view to ensure that claims on insurance companies, if any, are lodged in time, the bidders and /or the Indian agent, if any, shall be responsible for follow up with their Principals for ascertaining the dispatch details and informing the same to the Purchaser and he shall also liaise with the Purchaser to ascertain the arrival of the consignment after customs clearance so that immediately thereafter in his presence the consignment could be opened and the insurance claim be lodged, if required, without any loss of time. Any delay on the part of the bidder/ Indian Agent would be viewed seriously and he shall be directly responsible for any loss sustained by the purchaser on the event of the delay.
- (ix) Before the goods and equipment are taken over by the Purchaser, the Supplier shall supply operation and maintenance Manuals together with Drawings of the goods and equipment built. These shall be in such details as will enable the Purchase to operate, maintain, adjust and repair all parts of the works as stated in the specifications.
- (x) The Manuals and Drawings shall be in the ruling language (English) and in such form and numbers as stated in the Contract.
- (xi) Unless and otherwise agreed, the goods and equipment shall not be considered to be completed for the purposes of taking over until such Manuals and Drawing have been supplied to the Purchaser.
- (xii) On successful completion of acceptability test, receipt of deliverables, etc. and after the Purchaser is satisfied with the working of the equipment, the acceptance certificate signed by the Supplier and the representative of the Purchaser will be issued. The date on which such certificate is signed shall be deemed to be the date of successful commissioning of the equipment. Acceptance certificate form as given in Annexure-I (Chapter 8) should be signed by authorized representative of Supplier & Purchaser.

- (xiii) Installation demonstration is to be arranged by the supplier and the same is to be done within 15 days of the arrival of the equipment at site.

4.3.2 Manufacturer's Inspection Certificate

After the goods are manufactured and assembled, inspection and testing of the goods shall be carried out at the supplier's plant by the supplier, prior to shipment to check whether the goods are in conformity with the technical specifications. Manufacturer's test certificate with data sheet shall be issued to this effect and submitted along with the delivery documents. The purchaser reserves the options to be present at the supplier's premises during such Pre- dispatch inspection and testing.

4.3.3 Installation, Commissioning & Acceptance Test

The acceptance test will be conducted by the Purchaser, their consultant or other such person nominated by the Purchaser at its option after the equipment is installed at Purchaser's site in the presence of supplier's representatives. The acceptance will involve trouble free operation. There shall not be any additional charges for carrying out acceptance test. No malfunction, partial or complete failure of any part of the equipment is expected to occur. The Supplier shall maintain necessary log in respect of the result of the test to establish to the entire satisfaction of the Purchaser, the successful completion of the test specified.

In the event of the ordered item failing to pass the acceptance test, a period not exceeding two weeks will be given to rectify the defects and clear the acceptance test, failing which, the Purchaser reserve the right to get the equipment replaced by the Supplier at no extra cost to the Purchaser.

Successful conduct and conclusion of the acceptance test for the installed goods and equipment shall also be the responsibility and at the cost of the Supplier.

4.3.3.1 Acceptance Test Procedure

- a. Detailed ATP shall be prepared by CSIR-NAL and selected Bidder.
- b. Detailed ATP shall cover complete technical specification as per RFQ in addition to functional and failure scenario.
- c. ATP shall be jointly conducted, where CSIR-NAL team and Bidder's Team will be involved.
- d. It shall be Bidder's responsibility to complete the acceptance test procedure (ATP).
- e. The acceptance test procedure shall have following tests based on the technical specification.

4.3.3.1.1 Functional Specification Test

- a. Bidder needs to show the complete fan control functionality.
- b. Bidder needs to make sure that all the input and output connections are working as per their respective technical specification.
- c. In case of any conflict in technical specification, the final shall be as per respective standard document.

4.3.3.1.2 Operational Specification Test

- a. Power ON indicator shall function when system power is ON.
- b. The maintenance indicator shall indicate the maintenance mode of the system once system is in that state.

4.3.3.1.3 Physical Specification Test

- a. The card will be measured according to 3U form factor.
- b. The weight of the card including the connector shall be measured which needs to be as per required specification.

4.3.3.1.4 Electrical Specification Test

- a. IOTP and BKP card shall be tested with respective power levels of the power pins.

4.3.3.1.5 Interface Specification Test

4.3.3.1.5.1 ARINC429 Input and Output

- a. Bidder needs to show the ARINC429 interface functionality by providing ARINC429 signal waveform as input and capturing the same via IOTP and Backplane till I/O or Processor Card Connector and vice-versa.
- b. ARINC429 voltage levels should be as per standard.
- c. ARINC429 interface shall absorb the transient in IOTP and pass the ARINC429 signal to backplane interface of IOTP. The same signal shall be passed to the I/O cards through backplane.

4.3.3.1.5.2. ARINC664

- a. Bidder needs to show the ARINC664 interface functionality by providing ARINC664 signal waveform as input and capturing the same via IOTP and Backplane till I/O or Processor Card Connector and vice-versa.
- b. ARINC664 voltage levels should be as per standard.
- c. ARINC664 interface shall absorb the transient in IOTP and produce the ARINC664 signal to backplane interface of IOTP. The same signal shall be passed to the I/O cards through backplane.

4.3.3.1.5.3. Ethernet

- a. Bidder needs to show the Ethernet interface functionality by providing Ethernet signal waveform as input and capturing the same via IOTP and Backplane till I/O or Processor Card Connector and vice-versa.
- b. Ethernet voltage levels should be as per standard.
- c. Ethernet interface shall absorb the transient and produce the Ethernet signal to backplane interface of IOTP. The same signal shall be passed to the I/O cards through backplane.

4.3.3.1.5.4. ARINC825

- a. Bidder needs to show the ARINC825 interface functionality by providing ARINC825 signal waveform as input and capturing the same via IOTP and Backplane till I/O or Processor Card Connector and vice-versa.
- b. ARINC825 voltage levels should be as per standard.
- c. ARINC825 interface shall absorb the transient and produce the ARINC825 signal to backplane interface of IOTP. The same signal shall be passed to the I/O cards through backplane.

4.3.3.1.5.5. Analog Channel

- a. Bidder needs to show the Analog interface functionality by providing Analog signal waveform as input and capturing the same via IOTP and Backplane till I/O or Processor Card Connector and vice-versa.
- b. Analog voltage levels should be 0 – 5V.
- c. Analog interface shall absorb the transient and produce the Analog signal to backplane interface of IOTP. The same signal shall be passed to the I/O cards through backplane.
- d. Signal conditioner needs to be provided for all analog channels.

4.3.3.1.5.6. Discrete Channel

- a. Bidder needs to show the Discrete interface functionality by providing Discrete signal waveform as input and capturing the same via IOTP and Backplane till I/O or Processor Card Connector and vice-versa.
- b. Discrete voltage levels should be 28VDC/Open and GND/Open.
- c. Discrete interface shall absorb the transient and produce the Discrete signal at output to backplane interface of IOTP. The same signal shall be passed to the I/O cards through backplane.

4.3.3.1.5.7. RS422 Channel

- a. Bidder needs to show the RS422 interface functionality by providing RS422 signal waveform as input and capturing the same via IOTP and Backplane till I/O or Processor Card Connector and vice-versa.
- b. RS422 voltage levels should be as per standard.
- c. RS422 interface shall absorb the transient and produce the RS422 signal at output to backplane interface of IOTP. The same signal shall be passed to the I/O cards through backplane.

4.3.3.1.5.8. ARINC708 Channel

- a. Bidder needs to show the ARINC708 interface functionality by providing ARINC708 signal waveform as input and capturing the same via IOTP and Backplane till I/O or Processor Card Connector and vice-versa.
- b. ARINC708 voltage levels should be as per standard.
- c. ARINC708 interface shall absorb the transient and produce the ARINC708 signal to backplane interface of IOTP. The same signal shall be passed to the I/O cards through backplane.

4.3.3.1.5.9. RS232 Channel

- a. Bidder needs to show the RS232 interface functionality by providing RS232 signal waveform as input and capturing the same via IOTP and Backplane till I/O or Processor Card Connector and vice-versa.
- b. RS232 voltage levels should be as per standard.
- c. RS232 interface shall absorb the transient and produce the RS232 signal to backplane interface of IOTP. The same signal shall be passed to the I/O cards through backplane.

4.3.3.1.5.10. ARINC818 Channel

- a. Bidder needs to show the ARINC818 interface functionality by providing ARINC818 signal waveform as input and capturing the same via I/O Card Connector, Backplane and IOTP.
- b. ARINC818 voltage levels should be as per standard.
- c. ARINC818 interface shall absorb the transient and produce the ARINC818 signal to backplane interface of IOTP. The same signal shall be passed to the I/O cards through backplane.

4.3.3.1.5.11. DVI Channel

- a. Bidder needs to show the DVI interface functionality by providing DVI signal waveform as an input at GPU interface of backplane and capturing the same at IOTP.
- b. DVI voltage levels should be as per standard.

4.3.3.1.5.12. MTBF

- a. Bidder shall provide MTBF for each module with supporting data.

4.3.3.1.5.13. Environmental Specification Test

- a. Design needs to meet applicable guidelines of DO-160G.
- b. **The qualification testing is not scope of this project.**

4.3.3.1.6 Chassis ATP

- a. Bidder needs to provide design and inspection report consist of Complete Dimensions of ATR Chassis.
- b. Bidder needs to show entire geometrical relations with tolerances such as parallelisms, perpendicularity, concentricity and taper details.
- c. Bidder needs to show clearance analysis report between chassis slot to Card Module.
- d. Bidder needs to simulate the thermal dissipation with all the cards and fan. The cards details shall be provided by CSIR-NAL after purchase order. The simulated results shall be compared with thermal imager results.

4.3.3.1.7 Fan Control Module ATP

- a. Bidder needs to show the working of two fans controlled via fan control module.
- b. Bidder needs to show the operation of fan control module using operating voltage of 28VDC.
- c. Bidder needs to show the design adopted for EMI and transient protection mechanism on 28VDC (Actual test is not the scope of this tender).
- d. Bidders needs to show the input taken from processor on I2C channel for regulating the fan/s speed. (Processor card and command shall be provided by CSIR-NAL)
- e. Bidder needs to show the full speed override functionality of the module. (Override command shall be provided by CSIR-NAL from processor card)
- f. Bidder needs to show the functionality of tachometer input taken from fan.
- g. Bidder needs to show the PWM output signals for regulating the fan/s.

4.4 Training

1)	Location	CSIR-NAL
2)	Number of persons	5 Scientists
3)	Period of Training	2 Days from the date of installation / commissioning
4)	Nature of Training	Technical

4.5 Incidental Services

(i) **On site Comprehensive Warranty:**

- **1 Year** from Installation & Commissioning and date of acceptance
- Down-time call attendance should be within 48 hrs
- In case the Equipment / System remains non-operational for more than 7 days then warranty period will be extended for the equivalent period for which Equipment / System remained non-operational. Warranty extension in such case shall be done without prejudice to any other Term & condition of the contract
- Above 1 years of warranty period, if CSIR-NAL wants to extend the warranty of the system (Extended Warranty), the charge if any shall be provided separately in Commercial Bid. This shall not be part of L1-Criteria.
- Logistic and replacement of non-working Cards/System shall be borne by the Bidder only.
- **Bidder shall provide obsolescence support for minimum of 10 years.**

4.6 Technical Evaluation

4.6.1. Selection criteria for the Bidders at technical stage

- a. The Bidder shall have domain experience in developing 3U/6U VPX based Avionics system and expertise.
- b. The Bidder shall have domain experience in design and development of ATR Chassis.
- c. The Bidder shall have domain experience in design and development of 3U/6U VPX based Avionics cards.
- d. The Bidder shall have gone through the Complete Avionics System design lifecycle process with Indian/Abroad Certification agency for at least one Avionic System.
- e. Mere theoretical knowledge of the design shall not qualify as eligible Bidder.
- f. During technical evaluation stage, Bidder shall produce supporting data of the developed Avionics system.
- g. Bidder shall be open for transfer of Background IP used in this system if used.

4.6.2. Bidder Evaluation Matrix for Technical Bid

- a. For technical evaluation of the Bidders Technical Evaluation Committee has opted evaluation parameters on which **all Bidders** shall be evaluated based on the submitted tender documents.
- b. Technical Evaluation Committee reserves the right to decide the minimum cut-off score above which, Bidders shall be qualified for next round of tender process.
- c. Technical Evaluation Committee shall follow the evaluation parameters with respective weightage **based on only Tender Document submitted by Bidders.**

4.6.3. Terms and condition for technical evaluation

- a. TEC Committee reserves the right to add extra evaluation criteria or subtract existing criteria.
- b. Maximum score and weightage against each evaluation criteria are mentioned in the **Table 2: Technical Evaluation Matrix** and shall be uniform for all Bidders.
- c. TEC shall give marks to individual Bidders against individual criteria from 1 to 10 scale.
- d. **The final score of individual Bidder shall be normalized on the scale of 100.**
- e. The final score of individual Bidder shall be considered up to **second decimal digit only.**
- f. The technically selected Bidder's total score shall be published. However, under NO circumstance, the score of one Bidder shall be shared with other Bidder.
- g. No oral communication shall be taken as input for technical evaluation.
- h. After technical bid opened, Bidders shall not be allowed to change the technical and commercial proposal.

Table 2: Technical Evaluation Matrix

S.N.	NAL Evaluation Criteria	Weightage (0 to 1)	Max Score	Max Score with Weightage	Bidder 'X' Marks (1 to 10) Given by Committee (TEC)	Bidder 'X' Score
		A	B	C = A * B	D	E = A * D
1	Existing Technology/ System	0.5	10	5		
2	3U/6U VPX based Avionics system/Cards design expertise	0.5	10	5		
3	ATR Chassis design expertise	0.5	10	5		
4	VPX based Hardware Simulation and Testing expertise	1	10	10		
5	Demonstration of the Design Capability in front of Technical Evaluation Committee	1	10	10		
6	Deployment of Number of Manpower in this project (Separate Manpower)	1	10	10		
7	Understanding of NAL Requirements	1	10	10		
8	Compliance with NAL Requirements	1	10	10		
9	Project Timeline	1	10	10		
10	Technical Support and Representative Availability	0.5	10	5		
	Total			80		

4.7 Other Terms and Conditions

4.7.1. Bidding for Tender

- i. Bidder shall bid for whole system (IOTP, BKP, CHS, FCM and Test Extender Board with Cables and Connectors).
- ii. Bidder shall quote for NRE and IOTP, BKP, CHS, FCM and Test Extender Board with Cables and Connectors per unit cost separately in the commercial bid.
- iii. Bid for **partial** technical specification shall be rejected without any explanation.
- iv. Bidders shall furnish clause by clause compliance of the technical specification.
- v. Bidders should avoid putting "COMPLIED" against the technical specification.
- vi. Bidders are advised to provide compliance statement with proper justification against each technical specification.
- vii. Bidders are advised not to use any Commercial-Off-The-Self (COTS) module in the system designs in this project.
- viii. If due to unforeseen reason, use of COTS items can't be avoided, bidder has to make sure the availability and techno-commercial support for COST items during full lifecycle of this product.
- ix. The COTS item clause does not apply to the components.

4.7.2. Intellectual Property Related Terms and Condition

- i. The Intellectual Property Rights & Software copy rights developed in this project shall be owned by CSIR-NAL.
- ii. Ownership shall be applicable to the Intellectual Property developed as part of this project only.
- iii. Bidder can't use this design for similar application without written permission from CSIR-NAL.

4.7.3. Project Execution and Delivery Related Terms and Conditions

- i. NAL Team shall be part of the design team of the Bidder as observer and the design shall be accessible to the team members only.
- ii. Bidder shall select the BoM (Bill of Material) for this project which do not comes under export regulation.

- iii. After placement of Purchase Order on selected Bidder, followings project review mechanism shall be adopted:
 - a. Kick-off Meeting
 - b. System Requirements Review (SRR)
 - c. Preliminary Design Review (PDR)
 - d. Critical Design Review (CDR)
 - e. Test Readiness Review (TRR)
 - f. System Integration at Bidder Site
 - g. System Integration, Lab Test and Acceptance Test at NAL

4.7.4. Performance assurance bond for 3 years

- i. CSIR-NAL will take the delivered system for qualification testing and certification within 3 years from date of acceptance.
- ii. During qualification testing of the card and/or system (whichever applicable), if card and/or system fails (major/minor failure), it shall be Bidder's responsibility to rectify the card and/or system without any commercial to CSIR-NAL.
- iii. Bidder shall sign a bond for the performance assurance of the delivered card and/or system (whichever applicable) for period of 3 years from date of acceptance.

4.8 Delivery Schedule

Delivery of the Item		Installation & Commissioning		Training At CSIR_NAL, if any	Acceptance of the item
Days/ Weeks/Months	Location	Days/ Weeks/Months from the date of receipt of equipment	Location	Days/ Weeks/Months from the date of Installation & Commissioning	Days/ Weeks/Months from the date of Installation, Commissioning & Training
08 Month	CSIR-NAL	07 Day	CSIR-NAL ALD	02 Days	01 Month

4.9 Commercial evaluation of bid

The bid will be treated as **incomplete** if bidder has **not quoted** for all the components given in scope of supply (clause 4.2) and **the incomplete bid will be rejected**. The bidder should also quote for all incidental services (clause 4.5). The bid will be commercially evaluated for the components in the scope of supply.

4.9.1. Terms and condition for Commercial evaluation

- a. **L1 criteria of the Bidder shall be based on Grand Total Table 3: Commercial Evaluation Matrix of only.**
- b. Bidders shall quote for all the items listed in Table 2: Commercial Evaluation Matrix.
- c. **Commercial quote shall be as per "CHAPTER 6- A/B: PRICE SCHEDULE FOR GOODS BEING OFFERED FROM ABROAD/INDIA". The same can be referred in Chapter 6 of this document.**
- d. To assist vendors a breakup and respective heading mapping is provided in TABLE 2: Commercial Evaluation Matrix.
- e. Bidders shall use this breakup against budget heading of CHAPTER 6- A/B: PRICE SCHEDULE FOR GOODS BEING OFFERED FROM ABROAD/INDIA.

Table 3: Commercial Evaluation Matrix

S.N.	NAL Evaluation Criteria	Quantity	Bid Price		
			Unit	Unit Rate	Amount (Rs.)
1. Item name					
a	IOTP Set Cost	02	Set		
b	Backplane (BKP) Set Cost	02	Set		
c	ATR Chassis (CHS) Set Cost	01	Set		
d	Fan Control Module (FCM) Cost	02	Set		
e	Test Extender Board	02	Set		
f	Associated Cables	02	Set		
g	Mating connectors with back shell and strain relieving accessories	02	Set		
h	Total NRE Cost of the Project				
2. Required Spares/Consumables (if any)					
a	Testing and ATP (if extra)				
b	Any COTS Item				
3. Accessories (if any)					
a	Accessories of IOTP	01	Set		
b	Accessories of BKP	01	Set		
c	Accessories of CHS	01	Set		
d	Any other charges (if extra)				
4. Additional Items					
a	Any other, add here				
Sub-Total Ex-Works Price					
INSERT 5 Rows of budget heading here as per CHAPTER 6- A/B: PRICE SCHEDULE FOR GOODS BEING OFFERED FROM ABROAD/INDIA					
Sub-Total: Before Tax					
Add: GST/IGST (against Concessional Certificate)					
Total (A):					
Other Charges					
5	Installation and Commissioning Charges (If any)				
6	Training Charges (If any)				
Sub-Total: Before Tax					
Add: GST/IGST on Sr. No 5 and 6 (If Applicable)					
7	Bank Charges (If any)				
Total (B):					
Grand Total (A+B): F.O.R. CSIR-NAL					

CHAPTER 5

Eligibility & Qualification Requirements

5.1 Eligibility Criteria

a) **Legal Valid Entity:**

The Bidder shall necessarily be a legally valid entity either in the form of a Limited Company or a Private Limited Company registered under the Indian Companies Act, 1956 or Country of Origin.

Bidder in the form of consortium and Partnership is not permitted.

Copy of Certificate of Incorporation issued by Registrar of firms/companies is to be submitted in support of this criterion.

- b) Indian Agent quoting on behalf of Foreign Principal supplier should submit a certified **copy of an Agreement/Memorandum of understanding (MOU)** between both the parties.
- c) The bidder shall furnish documentary evidence to demonstrate that the bidder satisfies the bidders' **eligibility criteria**, as mentioned in **ITB Clause 1.1.2** in the form as per **Annexure-K of Chapter-8**.
- d) An **undertaking (self-certificate)** is to be submitted that the Organization has not been blacklisted during last 3 years by any Central / State Government Department/Organization in the form as per **Annexure-L of Chapter-8**.

5.2 Technical Qualification Criteria

- a) The Bidder should be a manufacturer /authorized representative of a manufacturer who must have designed, manufactured, tested and supplied the equipment(s) similar to the type specified in the "Technical Specification". Authorised representative / Indian Agent to submit the **Manufacturers' Authorization Form Chapter-8: Annexure B** with the technical bid.
- b) Equipment / System offered must be of the most recent series/models incorporating the latest improvements in design. The models should be in successful operation for at least one year as on date of Bid Opening. The bidder (OEM/Direct Distributor/Dealer) should have supplied and installed during **past 2 years, at least two similar equipment/ systems** as mentioned in Chapter-4. The Bidder should furnish the information on all past supplies and satisfactory performance during past 3 years in the **Performance Statement Form** (Chapter-8, Annexure D). Bidders shall invariably furnish documentary evidence (Client's certificate) in support of the **satisfactory operation of the equipment / system**.
- c) Details of Service Centres and information on service support facilities that would be provided after the warranty period (in the **Service Support Form-Chapter-8 Annexure-F**).
- d) Foreign bidder/suppliers quoting directly, should submit a letter of Authorisation in favour of Indian Agent/Representative indicating complete address, contact person and validity of Authorization if any along with their technical bid. Foreign bidder/suppliers quoting directly should ensure that adequate and specialized expertise is already available **or** will be made available following the execution of the contract in the Purchaser's country, to ensure that **the support services are responsive and adequate** as per **ITB 1.13.2(c)**.

5.3 Financial Qualification Criteria

- a) The Bidders are requested to submit **Audited Balance Sheet** for the **last three financial year** alongwith Technical Bid.

- 5.4 Either the Indian Agent on behalf of the foreign principal or the foreign principal directly could bid in a tender **but not both**. However, the offer of the Indian Agent should also accompany the authorization letter from their principal. Further, to maintain sanctity of tendering system **one Indian agent cannot represent two different foreign principals in one tender**.

CHAPTER - 6A

**PRICE SCHEDULE FOR GOODS BEING OFFER FROM ABROAD
(BIDDER SHOULD QUOTE IN THIS FORMAT)**

Name of the Bidder & Address						
Tender No.:						
Quotation No.				Date:		
Quotation Valid upto						
Country of Origin				Currency		
Sr. No.	Description of Item	HSS/SAC Code	Unit	Quantity	Rate	Amount
1						
2						
3						
4						
Sub-Total: Ex-Works Price						
Less: Discount% (if any)						
Sub-Total : Net Ex-Works Price						
Add: Packing & Forwarding Charges (if any)						
Add: Inland Freight Charges						
Sub-Total: INCOTERM: FCA/FOB International Airport,Country						
Add: Freight upto Bengaluru Airport						
Add: Insurance Charges (from Warehouse to Warehouse) (if any)						
Total (A):						
OTHER CHARGES						
5	Installation & Commissioning Charges (if any)					
6	Training (if any)					
Sub-Total : Before Tax						
Add: GST on Sr. No.5 & 6 (if applicable)						
7	Bank Charges (if any)					
Total (B):						
Grand Total (A+B): CIP/CIF Charges - Bengaluru Price						
For SI. No.5 & 6 - TDS will be deducted at actuals.						
8	Buy-Back Price					
9	Annual Maintenance Contract / Charges					
	Comprehensive			Non-Comprehensive		
OTHER TERMS						
Sr. No.	Approximate weight of the Consignment	Approximate dimensions of the consignment				
1						
2	Mode of Shipment					
3	Port of Destination		Final Destination			
4	Delivery Term (INCO Term)					
5	Delivery Schedule including Item, Installation, Commissioning, Training & Acceptance					
6	Payment Term					
7	Warranty					
NOTE: Agency Commission, if any would be payable only in Indian Rupee as per the Exchange Rate mentioned in the Bill of Entry.						

CHAPTER - 6B

PRICE SCHEDULE FOR GOODS BEING OFFER FROM INDIA

(BIDDER SHOULD QUOTE IN THIS FORMAT)

Name of the Bidder & Address						
Tender No.:						
Quotation No.				Date:		
Quotation Valid upto						
Country of Origin				Currency		
Sr. No.	Description of Item	HSS/SAC Code	Unit	Quantity	Rate	Amount
1						
2						
3						
4						
Sub-Total: Ex-Works Price						
Less: Discount% (if any)						
Sub-Total : Net Ex-Works Price						
Add: Packing & Forwarding Charges (if any)						
Add: Transportation Charges (if any)						
Add: Insurance Charges (from Warehouse to Warehouse) (if any)						
Sub-Total : Before Tax						
Add: GST / IGST (against Concessional Certificate)						
Total (A):						
OTHER CHARGES						
5	Installation & Commissioning Charges (if any)					
6	Training (if any)					
Sub-Total : Before Tax						
Add: GST on Sr. No.5 & 6 (if applicable)						
7	Bank Charges (if any)					
Total (B):						
Grand Total (A+B): F.O.R CSIR-NAL						
For Sl. No.5 & 6 - TDS will be deducted at actuals.						
8	Buy-Back Price					
9	Annual Maintenance Contract / Charges					
	Comprehensive			Non-Comprehensive		
Grand Total in Figures						
Grand Total in Words						
OTHER TERMS						
Sr. No.	Approximate weight of the Consignment	Approximate dimensions of the consignment				
1						
2	Mode of Shipment					
3	Port of Destination		Final Destination			
4	Delivery Term					
5	Delivery Schedule including Item, Installation, Commissioning, Training & Acceptance					
6	Payment Term					
7	Warranty	54				

CHAPTER 7

Contract Form

Contract No. _____ Date: _____

THIS CONTRACT AGREEMENT is made
the [*insert: number*] day of [*insert: month*], [*insert: year*].

BETWEEN

- (1) The Council of Scientific & Industrial Research registered under the Societies Registration Act 1860 of the Government of India having its registered office at 2, Rafi Marg, New Delhi-110001, India represented by National Aerospace Laboratories, Bengaluru (hereinafter called "the Purchaser"), and
- (2) [*insert name of Supplier*], a corporation incorporated under the laws of [*insert: country of Supplier*] and having its principal place of business at [*insert: address of Supplier*] (hereinafter called "the Supplier").

WHEREAS the Purchaser invited bids for certain Goods and ancillary services, viz., [*insert brief description of Goods and Services*] and has accepted a Bid by the Supplier for the supply of those Goods and Services in the sum of [*insert Contract Price in words and figures, expressed in the Contract currency(ies)*] (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

01. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
02. The following documents shall constitute the Contract between the Purchaser and the Supplier, and each shall be read and construed as an integral part of the Contract:

(a)	This Contract Agreement
(b)	General Conditions of Contract
(c)	Special Conditions of Contract
(d)	Technical Requirements (including Schedule of Requirements and Technical Specifications)
(e)	The Supplier's Bid and original Price Schedules
(f)	The Purchaser's Notification of Award
(g)	[<i>Add here any other document(s)</i>]

03. This Contract shall prevail over all other Contract documents. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.
04. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
05. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Union of India on the day, month and year indicated above.

For and on behalf of the Council of Scientific & Industrial Research

Signed : [*insert signature*]
in the capacity of [*insert title or other appropriate designation*]
in the presence of [*insert identification of official witness*]

Signed : [*insert signature*]
in the capacity of [*insert title or other appropriate designation*]
in the presence of [*insert identification of official witness*]

For and on behalf of the Supplier

Signed : [*insert signature of authorized representative(s) of the Supplier*]
in the capacity of [*insert title or other appropriate designation*]
in the presence of [*insert identification of official witness*]

CHAPTER 8

OTHER STANDARD FORMS

Sr. No.	Name of the Form	Annexure
1	Bid Security Form / Earnest Money Deposit	A
2	Bidder Information Form	B
3	Bid Form	C
4	Manufacturer's Authorization Form	D
5	Performance Statement Form	E
6	Service Support Detail Form	F
7	Eligibility Certificate	G
8	Non Black List Certificate	H
9	No Relation Certificate	I
9	Deviation Statement Form	J
10	Performance Security Form	K
11	Indemnity Bond	L
12	Acceptance Certificate Form	M

NOTE:

1. Forms at Annexure A to J to be submitted along with Technical bid **(excluding Annexure-C)**.
2. The Successful Bidder shall submit Documents with reference to Annexure -K, L and Chapter-7 after Award of Contract as mentioned in Purchase Order. Confirmation of submission to the same has to be mentioned in the Technical Bid.
3. Price bid (Chapter-6) should be enclosed in Financial Bid only along with Annexure-C duly filled.

BID SECURITY FORM/EARNEST MONEY DEPOSIT

Whereas _____
(hereinafter called the tenderer)

has submitted their offer dated _____
for the supply of _____
(hereinafter called the tender)

Against the Purchaser's Tender No. _____
KNOW ALL MEN by these presents that WE _____
of _____ having our registered office at _____
_____ are bound unto _____ (hereinafter called the "Purchaser")

In the sum of _____

For which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this _____ day of _____ 20____.

THE CONDITIONS OF THIS OBLIGATION ARE:

(1)	If the tenderer withdraws or amends or modifies or impairs or derogates from the Tender in any respect within the period of validity of this tender.
(2)	If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity
(3)	If the tenderer fails to furnish the Performance Security for the due Performance of the contract.
(4)	Fails or refuses to accept/execute the contract.

We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the authorized officer of the Bank)

Name and designation of the officer
Seal, name & address of the Bank and address of the Branch

Note: Whenever the bidder chooses to submit the Bid Security in the form of Bank Guarantee, then he should advise the banker issuing the Bank Guarantee to immediately send by Registered Post (A.D.) an unstamped duplicate copy of the Guarantee directly to the Purchaser with a covering letter to compare with the original BG for the correctness, genuineness, etc.

Bidder Information Form

- (a) [The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted. This should be done of the letter head of the firm]

Date : [insert date (as day, month and year) of Bid Submission]

Tender No : [insert number from Invitation for bids]

01.	Bidder's Legal Name [insert Bidder's legal name]
02.	In case of JV, legal name of each party: [insert legal name of each party in JV]
03.	Bidder's actual or intended Country of Registration: [insert actual or intended Country of Registration]
04.	Bidder's Year of Registration: [insert Bidder's year of registration]
05.	Bidder's Legal Address in Country of Registration: [insert Bidder's legal address in country of registration]
06.	<p>Bidder's Authorized Representative Information</p> <p>Name: [insert Authorized Representative's name]</p> <p>Address: [insert Authorized Representative's Address]</p> <p>Telephone/Fax numbers: [insert Authorized Representative's telephone/fax numbers]</p> <p>Email Address: [insert Authorized Representative's email address]</p>
07.	<p>Attached are copies of original documents of:</p> <p>Articles of Incorporation or Registration of firm named in 1, above.</p>

Signature of Bidder _____

Name _____

Business Address _____

Bid Form

[The Bidder shall fill in this Form in accordance with the instructions indicated No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date : [insert date (as day, month and year) of Bid Submission]

Tender No. :

To : Director, CSIR-NAL, Bengaluru

We, the undersigned, declare that:

(a)	We have examined and have no reservations to the Bidding Documents, including Addenda No.: [insert the number and issuing date of each Addenda]
(b)	We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods and Related Services [insert a brief description of the Goods and Related Services] as specified in Chapter 4
(c)	The total price of our Bid, excluding any discounts offered in item (d) below, is: [insert the total bid price in words and figures, indicating the various amounts and the respective currencies]
(d)	The discounts offered and the methodologies for their application are: Discounts. If our bid is accepted, the following discounts shall apply. [Specify in detail each discount offered and the specific item of the Schedule of Requirements to which it applies.]
(e)	Our bid shall be valid for the period of time specified in ITB Clause 1.16, from the date fixed for the bid submission due date in accordance with ITB Clause 1.19 and it shall remain binding upon us and may be accepted at any time before the expiration of that period
(f)	If our bid is accepted, we commit to obtain a performance security in accordance with ITB Clause 1.41 and GCC Clause 2.12 for the due performance of the Contract
(g)	The following commissions, gratuities, or fees have been paid or are to be paid with respect to the bidding process or execution of the Contract: [insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]

Name of Recipient	Address	Reason	Amount
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(If none has been paid or is to be paid, indicate "none.")

(h)	We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.
(i)	We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Signed : [insert signature of person whose name and capacity are shown]

In the capacity of [insert legal capacity of person signing the Bid Submission Form]

Name : [insert complete name of person signing the Bid Submission Form]

Duly authorized to sign the bid for and on behalf of: [insert complete name of Bidder]

Dated on _____ day of _____, _____ [insert date of signing]

MANUFACTURERS' AUTHORIZATION FORM

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer.]

Date : *[insert date (as day, month and year) of Bid Submission]*

Tender No. : *[insert number from Invitation For Bids]*

To : *[insert complete name and address of Purchaser]*

WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following Goods, manufactured by us *[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 2.20 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Duly authorized to sign this Authorization on behalf of: *[insert complete name of Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

PERFORMANCE STATEMENT FORM

Details of similar equipment / systems supplied & installed during past 3 years in India & Abroad

Name of the Firm _____

Order Placed by (full address of Purchaser)	Order No. and date	Description and quantity of ordered equipment	Value of order	Date of completion of deliver as per contract	Date of actual completion of delivery	Remarks indicating reasons for late delivery, if any	Has the equipment been installed/ working satisfactory? (Attach a certificate from the purchaser / Consignee)	Name of Contact person along with Telephone No., Fax No. and e-mail address

Signature and Seal of the manufacturer/Bidder

Place :

Date :

SERVICE SUPPORT DETAIL FORM

Sr. No.	List of similar type of equipments serviced in the past 3 years	Address, Telephone Nos., Fax No. and e-mail address of the buyer	Nature of training Imparted/ service provided	Name and address of service provider

Signature and Seal of the manufacturer/Bidder.....

Place :

Date :

Eligibility Certificate

This is to certify that we are not associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation of Bids / Tender No. _____ dated _____.

Authorised Signatory

Name: _____

Designation: _____

Non-Black listing Self Certificate

This is to certify that M/s. _____ has not been blacklisted by any Central / State Government Department / organization in last 3 years.

Authorised Signatory

Name: _____

Designation: _____

No Relation Certificate

I..... son of resident of hereby certify that none of my relative (s) called for providing Services to the CSIR-NAL, vide Tender No:is / are employed in CSIR-National Aerospace Laboratories, Bengaluru. In case at any stage, it is found that the information given by me is false / incorrect, CSIR-NAL shall have the absolute right to take any action as deemed fit / without any prior intimation to me.

Signed.....

For and on behalf of the Bidder

Name

Designation

Date.....

DEVIATION STATEMENT FORM

PART -I

The following are the particulars of deviations from the requirements of the tender specifications:

CLAUSE	DEVIATION	REMARKS (INCLUDING JUSTIFICATION)

Place:

Date:

Signature and seal of the
Manufacturer/Bidder

NOTE:

Where there is no deviation, the statement should be returned duly signed with an endorsement indicating "No Deviations".

PART – II**(Refer Clause 1.25 of Tender Document, Chapter-7 & Chapter-8)**

Sr. No.	Tender Clause No.	Tender Requirement	Compliance	Document Submitted
1	1.17	Bid is Signed	Yes / No	Yes / NA
2	1.16	Bid Validity (90 days after the date of Bid opening)	Yes / No Bid valid up to	Yes / NA
3	1.15	Bid Security/Earnest Money Deposit	Yes / No	Yes / NA
4	Chapter-8, Annexure-B	Bidder Information Form	Yes / No	Yes / NA
5	Chapter-8, Annexure-C	Bid Form	Yes / No	Yes / NA
6	Chapter-8, Annexure-G	Eligibility Certificate	Yes / No	Yes / NA
7	Chapter-8, Annexure-H	Non-Black List Certificate	Yes / No	Yes / NA
8	Chapter-8, Annexure-I	No Relation Certificate	Yes / No	Yes / NA
9	Chapter-5, Clause No.5.1(a(iii))	Copy of Certificate of Incorporation	Yes / No	Yes / NA
10	Chapter-5, Clause No.5.1(b)	Copy of Agreement/Memorandum of Understanding	Yes / No	Yes / NA
11	Chapter-5, Clause No.5.2(a)	Manufacturer's Authorisation Form	Yes / No	Yes / NA
12	Chapter-5, Clause No.5.2(b)	List of Supply and Installation of the Equipment & Performance Statement Form	Yes / No	Yes / NA
13	Chapter-5, Clause No.5.2(c)	Service Support Detail Form	Yes / No	Yes / NA
14	Chapter-5, Clause No.5.3(a)	Audited Balance Sheet (Last three Financial Year)	Yes / No	Yes / NA
15	GCC 2.20.3 & as specified in SCC	Warranty: One-year warranty from the date of acceptance of the item	Yes / No	Yes / NA
16	Clause 2.12.1 & as specified in SCC	Agree to submit Performance Security 10% of PO Value	Yes / No	Yes / NA
17	Chapter-8, Annexure-L	Agree to submit Indemnity Bond	Yes / No	Yes / NA
18	Chapter-7	Original Equipment Manufacturer/ Authorised Indian Agent agree to submit Contract Agreement	Yes / No	Yes / NA

The Bidder should submit other documents such as fulfillment of financial qualification criteria, Schedule of Requirement (Chapter-3) and various forms as specified in Chapter-8.

PERFORMANCE SECURITY FORM

MODEL BANK GUARANTEE FORMAT FOR PERFORMANCE SECURITY

To,

.....

WHEREAS

(name and address of the supplier) (hereinafter called "the supplier") has undertaken, in pursuance of contract no. datedto supply (description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of(amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the day of, 20.....

(Signature of the authorized officer of the Bank)

.....

Name and designation of the officer

.....

Seal, name & address of the Bank and address of the Branch

Note: Whenever, the bidder chooses to submit the Performance Security in the form of Bank Guarantee, then he should advise the banker issuing the Bank Guarantee to immediately send by Registered Post (A.D.) an unstamped duplicate copy of the Guarantee directly to the Purchaser with a covering letter to compare with the original BG for the correctness, genuineness, etc.

INDEMNITY BOND

No. _____

Date: _____

1) Amalgamation/Acquisition

In the event of M/s. _____proposes for amalgamation, acquisition or sale of its business to any other firm during this contract period, M/s._____ and proposed Buyer/Successor of the Principal Company are liable to execute, fulfill contractual obligations without any deviations. For this purpose M/s. _____/M/s._____ and proposed Buyer/Successor of the Principal Company shall indemnify itself to the Director, National Aerospace Laboratories, Bengaluru to fulfill the contractual obligations as per the terms of the CSIR-NAL Global Tender and quotation of M/s. _____No. _____ dated_____and National Aerospace Laboratories P.O. No._____dated _____. The contractual obligations are supply, installation, commissioning, warranty maintenance/replacement of spares, accessories etc. as per the above mentioned Purchase Order.

2) JointVenture, Consortium or Association

If the Supplier is a joint venture, consortium, or association, all the parties shall be jointly and severally liable to the CSIR-NAL for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the CSIR-NAL.

3) Patent Indemnity

The Supplier shall, subject to CSIR-NAL's compliance and indemnify and hold CSIR-NAL and its employees and officers harmless from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which CSIR-NAL may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of: (a) the installation of the Goods by the Supplier or the use of the Goods in India; and (b) the sale in any country of the products produced by the Goods.

For M/s. _____
Principal Supplier.

For M/s _____
Indian Agent.

Acceptance Certificate

PO No.:			Dated:	
Sub: Certificate of Supply, Installation, Commissioning, Training and Acceptance of Goods & Services				
1	This is to certify that the equipment as detailed below has/have been received in good condition along with all the standard and special accessories (subject to remarks in Para 2). The same has been installed, commissioned and accepted.			
(a)	Contract No.			
	Date			
	Value			
(b)	Description of the Equipment			
(c)	Name of the Consignee			
(d)	Scheduled date of Delivery of the Consignment to the Laboratory/Institute			
(e)	Details of LC Established			
	Date of Establishment	Date of Shipment	Date of Expiry	
(f)	Actual date of receipt of Consignment by the Laboratory/Institute			
	Date of Shipment	Date of Receipt at CSIR-NAL		
(g)	Scheduled date for completion of Installation, Commissioning and acceptance			
(h)	Actual date of completion of Installation, Commissioning and acceptance			
(i)	Penalty for Late Delivery (at Laboratory / Institute level) Rs.			
(j)	Penalty for Late Installation, Commissioning and Acceptance (at Laboratory / Institute level) Rs.			
2	Details of accessories/items not yet supplied and recoveries to be made on that account			
Sr. No.	Description	Amount to be recovered		
3	The acceptance test has been done to our entire satisfaction. The Supplier has fulfilled his contractual obligations satisfactory			
	OR			
	The Supplier has failed to fulfill his contractual obligations with regard to the following:			
Sr. No.	Description	Amount to be recovered		
The amount of recovery on account of failure of the supplier to meet his contractual obligations is as indicated at Para 3				

4	Liquidated Damages/Penalty Percentage				
	No. of Days / Weeks delayed		Amount to be recovered		
5	Warranty Details				
6	Training, if any				
7	Details of Performance Security submitted in the form of Bank Guarantee / Demand Draft				
	BG No.	Date	Amount in USD	Valid till	% of BG
For Purchaser (Indenting Officer)			For Purchaser (Project Leader)		
Signature			Signature		
Name			Name		
Designation			Designation		
Name of the Laboratory/Institute		CSIR-NAL	Name of the Laboratory/Institute		CSIR-NAL
Date			Date		
HOD					
Signature					
Name					
Designation					
Name of the Laboratory/Institute		CSIR-NAL			
Date					
For Supplier					
Signature					
Name					
Designation					
Name of the Firm					
Date					